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ABSTRACT

The report presents a summative evaluation of the Astor Program for Gifted Children, which developed a resource center and also implemented a "host school" concept for intellectually gifted preschoolers in New York City. The program director's tasks in coordinating a resource center are discussed, including involving policy makers at high levels of authority, public relations, information and consultant services, and citywide conferences and training institutes. Some guidelines for the functions of a resource center are also presented. The program's planning and administration are discussed in terms of teacher selection -- which gets a special focus in a later section -- selecting participating districts and schools, and some early problems. Pupil selection is reviewed, along with various background data on the participating students and their families. The curriculum itself is examined, including the standard skills, special interest topics, and individual talents it covered, as well as character development and personal growth. The evidence is said to indicate, among other things, that the Astor Program fostered significant gains in student achievement, specifically in the areas of work knowledge, reading, and mathematics, and in love of learning and enthusiasm for school. Various forms, questionnaires, and lists are appended. (DLS)

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THE ASTOR PROGRAM FOR GIFTED CHILDREN

PRE-KINDERGARTEN THROUGH GRADE THREE

VIRGINIA Z. EHRLICH, DIRECTOR

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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THE ASTOR PROGRAM FOR GIFTED CHILDREN:
Pre-Kindergarten through Grade Three

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ACKNOWLEDGMENTS

For five years, I have been the fortunate recipient of letters, notes, and comments from parents and educators in which they have expressed their gratitude for the Astor Program. At this time, I should like to make a formal transfer of these messages to the rightful recipient, Mrs. Vincent Astor. It was she who initiated the steps that led to the creation of the Astor Program for Gifted Children. I am sure that in the future many children who were the beneficiaries of this program will bring honor to the program by making major contributions to our society.

It is also fitting that I express my gratitude to Dr. Anthony J. Polemeni, Director of the Office of Educational Evaluation, for his support during the early days of piloting the grants through the stages of obtaining Central Board approval and for creating the kind of working environment where creative work could find expression.

Although it is not practical to name all those who shared in this venture, we must cite the cooperation of the district superintendents, their representatives, all the principals and, most important of all, the teachers who gave their very best to this difficult task.

The program created a joyful, cooperative spirit that gave hope to the educational community. Once involved, individuals remained interested and concerned. Many contributed time and services, without pay, merely because they were enthusiastic about our goals and the wonderful children we were serving. We hoped to teach our children about social responsibility, caring, and cooperation and our staffs, both teaching and administrative, set the best examples. The Astor Program for Gifted Children succeeded because many people cared enough about our mission and about its goals to give it their best efforts.

Behind every program there must be an administering staff, however small. On this staff rests the burden for making all the parts mesh and function smoothly together. I was incredibly fortunate in having a staff that achieved the kind of teamwork that helped us attain our goals. It was never *my* program. It was *our* program. Everybody cared.

Chief among these members of my staff was Mrs. Judith Flachner. She screened children, interviewed parents, wrote and reviewed curriculum materials, observed classes and teachers, even taught classes when necessary. She planned, arranged, and administered our very successful Citywide Conferences. She edited our reports, aided in the statistical analyses. And, she managed to know each child in the program as though he were part of a small class. There was no detail of the program that escaped her attention. Always, she was patient, thoughtful, understanding, and courteous. Typically, she rarely received public thanks for her significant role and did not seek it. Yet, she was the key staff person on whom so much depended.

Mrs. Barbara Hirst was our liaison person to the schools and the teachers. She tended to the endless details of coordinating a program that spread from one extreme of the city to another. She was well organized, systematic, cooperative. Her memoranda to me are a diary of our daily problems, which she not only listed but also for which she provided solutions. She, too, taught classes in times of crisis, developed curriculum ideas, reviewed lesson plans, and organized conferences. Like Mrs. Flachner, she managed to know many of the children and could offer significant information whenever needed.

We had a large and complex budget, which had to be processed through a labyrinth of bureaucratic detail. Yet, at any moment, I was able to report on the status of our allocations, expenses, encumbrances, and balances through a system maintained with complete accuracy by Mrs. Dorothea Rifkin. Her records were impeccable. Consistent with the versatility of our staff, she too administered tests, helped with curriculum development, taught in the classroom, hosted at conferences, and helped wherever and whenever needed.

One of our very creative and capable teachers, Mrs. Patti Seiler, also served on our office staff, when she was not assigned to a classroom. Besides contributing her services as artist-in-residence, as we called her, Mrs. Seiler was the efficient keeper of records, processor of tests, and general assistant whose competence kept our complex operation moving smoothly. Her classroom experiences with the gifted made her invaluable in developing and editing curricula and in establishing policy for classroom management.

All of these teachers served in part-time capacities, with no security about their positions or possibilities for continuity of employment. Yet, as is apparent from the many tasks they performed, they worked as a cooperative and integrated family, pitching in whenever and wherever needed. They worked through their lunch hours, after hours, from their homes, through and around crises. They came in to work on days when there was absolutely no guarantee that they would be paid for their time. Their only goal was protection of the program and the welfare of the children. No administrator could ask for a more devoted, loyal, and hard working staff.

One of the most critical aspects of our work was the selection of the pupils. Administering psychological tests and making the sensitive observations required for our work was a task that demanded the most competent personnel. We were most fortunate in obtaining the services of Dr. Esther Lopato, our chief psychologist, whose perceptive understanding and years of experience with gifted children helped to create our reputation for integrity and accuracy in selecting pupils. Assisting her was a "come and go" staff of psychologists who worked most cooperatively with us. Miss Carole Michaels, Mrs. Rona Kelman, Mrs. Orrie Peterfreund, and Miss Shirley Chester all worked with us at some time or other, and each made a significant contribution to our identification procedures.

Over the years, we have benefitted by having secretaries who were as deeply involved in our goals as the rest of the staff. Mrs. Margaret Masseboeuf served with me during the trying days of processing the early grants. She worked during the times of personnel upheavals at headquarters, which jammed our telephones with hysterical and sometimes abusive phone calls.

Mrs. Massebœuf, though reduced to tears, stood by and remained steadfast through it all. She was a most efficient, loyal, and interested member of our work family right to the last days, when compulsory retirement deprived us of her services.

Mrs. Olga DiSciscio has been associated with our work on the gifted for many years, long before the Astor Program came into being. Whenever we could, we included her services in our budgets, knowing that she has no peer as a secretary, with all the multiple responsibilities that title suggests. As a school secretary in the Board of Education, she knows all the complexities of record keeping, payroll processing, and forms reporting required for the many negotiations arising from a large scale activity. Combined with this knowledge is a love of children and a graciousness in dealing with people in person and over the telephone. A happier part of our working day was having Mrs. DiSciscio bring a little one into my office and say: "Oh, you must take this one!" "This one" might be ten months, two years, or four. No matter, they were all "precious". Parents seeing their children being received in this manner could not help but be favorably impressed with our office.

When the countdown comes, and a report has to get out, there is no greater blessing than a crackerjack typist, who is willing to pound away at the keys and turn out beautiful copy. How can we ever thank Mrs. Beverly Manchand, who worked so very hard all the time, but hardest during the last weeks while we were trying to "get to press"? She was charming, cooperative, and made our days so much brighter by her cheerfulness, industry, and willing cooperation.

To Mrs. Cleo Wassey we must express special thanks for the assistance she gave us in the critical days of "wrapping up." And, we must also say a warm "thank you" to Mrs. Nellie Feld, who was always on hand at our City-wide Conferences, ready for work, not for pay, but for the pleasure of helping us succeed.

If these acknowledgments convey to the reader a feeling of a warm, concerned, and devoted working family, I have succeeded in explaining why the Astor Program for Gifted Children was able to survive through its many trials and why it achieved so much. How could it fail, with such a fine staff steering its passage through the turbulent waters of crises, problems, difficulties, and sheer fun we all had together?

To Mrs. Astor and the Trustees of the Vincent Astor Foundation, we say, "Thank you!" for making it all possible.

Virginia Z. Ehrlich, Ed.D.

October 6, 1978

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ASTOR PROGRAM TEACHERS

February, 1974 - June, 1977

Abramowitz, Lenore
Borzym, Pearl
Chertoff, Beatrice
Chiapparone, Anne
Convel, Ethel
Darer, Evelyn
Edelson, Bobbi
Feinman, Helen
Friedlin, Gail
Gal, Irma
Jacobs, Irwin
Kaufman, Rosanne
Natale, Christine
Nieman, Helene
Packer, Marian
Rosenthal, Helen
Rubin, Joyce
Salazar, Lillian
Scala, Rita
Scheinhaus, Phyllis
Schmerler, Renee
Seltzer, Carol
Siegel, Elaine
Silverstein, Helene
Slivko, Jacqueline
Sloman, Eneas
Strahan, Richard
Zakin, Anita

PARAPROFESSIONALS

Au, Susan
Bram, Elaine
Chew, Nu Toy
Chiu, Pauline
Edwards, Anna
Fredricks, Hattie
Garrett, Marilyn
Greenberg, Barbara
Mandelblatt, Alberta
Muir, Frances

PARTICIPATING DISTRICTS AND SCHOOLS

February, 1974 - June, 1977

District 2: Dr. Barbara Weldon, Community School District Superintendent
Miss Mary Tighe, Principal, PS 6, Manhattan
Mr. Martin Brodsky, Principal, PS 116, Manhattan
Mr. Sam Cooper, Principal, PS 124, Manhattan

District 11: Mr. Nicholas Cicchetti, Community School District Superintendent
Mr. Donald Hertz, Principal, PS 83, Bronx

District 15: Mr. Alfred Melov, Community School District Superintendent
Mrs. Marjorie Russell, Principal, PS 230, Brooklyn

District 18: Mr. Harvey Garner, Community School District Superintendent
Mr. Julius Warshaw, Principal (1974), PS 114, Brooklyn
Mr. Harvey Weil, Principal, PS 114, Brooklyn
Mr. Norman Desser, Principal, PS 208, Brooklyn
Mr. Alan Grossberg, Principal, PS 276, Brooklyn

District 26: Mr. Marvin Weingart, Community School District Superintendent
Mr. Berton Lax, Principal, PS 221, Queens

District 27: Mr. Marvin Aaron, Community School District Superintendent
Mr. Samuel Peyer, Principal, PS 124, Queens

INTRODUCTION

Concern for appropriate and adequate educational provisions for intellectually gifted children and youth has been a cyclical affair for America over the years. Although there have been programs for the gifted for well over a century -- Superintendent of Schools William Harris initiated rapid promotion for bright students in St. Louis as early as 1868 -- school systems have sporadically organized programs for the gifted and then dropped them as educational, social, and/or political forces resulted in reordering of priorities.

As Virginia Ehrlich points out, New York City has made various provisions for its gifted and talented students since the turn of the century. From the beginning, New York did not follow one approach but had a variety of provisions ranging from Rapid Advance (RA) classes to special schools, such as Townsend Harris High School. In the 1950's, I observed that any program for the gifted anywhere in the United States could be found somewhere in the New York City schools. At the time, there were Intellectually Gifted Child (IGC) classes in the elementary schools, SP (Special Progress) classes in the junior high schools, Honors Classes and Honors Schools in the high schools, and five special high schools such as Bronx High School of Science and the High School of Music and Art. But, as in many other places across the nation, many programs were phased out as other concerns took higher priority in the 1960's. Thus, as Dr. Ehrlich begins her story in this report, she is in an office at the Board of Education with a sign

on the door reading "Gifted Child Studies," but her work has very little to do with the education of the gifted. In fact, in Autumn 1971, programs for the gifted were "fighting for mere existence, as one after another, they are being abandoned."

In Spring 1973, the Vincent Astor Foundation responded positively to a proposal from Dr. Virginia Ehrlich on behalf of the Board of Education of the City of New York, and the Astor Program for Gifted Children was initiated. The Astor Program had two major goals. One involved the organization and implementation of a program for young gifted children. The second involved an effort to revitalize New York's provisions for the gifted by promoting "continuous research, experimentation, and education of the gifted" at all levels.

This report deals with an account of how Dr. Ehrlich and her colleagues attempted to achieve these two goals. It is, as the reader will soon find, a detailed discussion of a successful effort to meet the educational needs of very young intellectually gifted children and, equally important, it provides a great deal of detail which will help the reader in implementing a program in his/her own setting. This is a summative evaluation of the Astor Program for Gifted Children but it provides much more than data about the classes for young gifted children. In providing details about the planning and administration of the first two classes Winter 1974 through the Spring Term 1977 when Astor funding was terminated and the Board of Education absorbed and institutionalized the classes, the reader will be helped with various aspects of planning for the gifted -- pupil identification, teacher selection, curriculum design, materials and resources, parental involvement, and evaluation.

With New York City's decentralized community school district organization, it was necessary to negotiate the establishing of each of the classes. The Astor Program was concerned with very able, very young preschool children (the first group ranged in age from 4 years to 5 years 7 months as of September 1 of the school year). The criteria for selection are detailed. Although the major criterion for selection was high intellectual ability as evidenced by Stanford-Binet score (I.Q. score of 140 set as guideline), one district used alternative pupil selection procedures and Dr. Ehrlich studied the value of these alternative procedures to Stanford-Binet screening. The pupils selected were quite diverse with respect to race, ethnic background, and socioeconomic status.

An especially useful section is the chapter which deals with the planning and implementation of the curriculum for the Astor Classes. The literature on the gifted advocates a "differentiated curriculum" but this report is one of the few to describe and operationalize the concept. Dr. Ehrlich discusses how the program attempted to provide for the basic general education of the children as well as develop their individual skills, talents and interests. An Astor Program Day gives concreteness to the discussion of curriculum.

The final chapter asks and answers the question: "What did Astor Program children gain by the special program designed for them?" Both subjective and objective data are presented. Dr. Ehrlich's findings indicate significant achievement gains as well as positive attitudinal development and draws the conclusion that "intervention into the early education of these very superior gifted children did make a substantial difference in both the affective and cognitive domains."

This report on the Astor Program is important for a number of other reasons. The study adds a good deal to our knowledge about the growth and development of very young children. Most research deals with much older children and youth. The three cadres admitted to the program represent one of the largest population samples of children with high intelligence quotients extant in the research literature. And, few studies have been conducted on a longitudinal basis comparable to this one.

Those of us who are interested in the development, education, and socialization of young intellectually gifted children will appreciate the vision and generosity of The Vincent Astor Foundation in making the program possible and the dedication and commitment of Dr. Virginia Ehrlich in designing and implementing the Astor Program for Gifted Children. To a considerable extent, the two goals of the program grant have been realized: as of this time, education for the gifted has experienced a renaissance in New York City public schools and a valid program for young gifted children has been developed and implemented and is continuing in a number of schools throughout the city.

A. Harry Passow
Jacob H. Schiff Professor of Education
Teachers College, Columbia University
New York, New York 10027

October, 1978

1 BEGINNINGS

Autumn, 1971. Although the name on my door reads: GIFTED CHILD STUDIES, the papers before me have nothing to do with the gifted. They represent the activities to which I am expected to give priority in my work day, even though my letter box contains a request from the Chancellor of the New York City public school system to respond to an inquiry about the needs of a gifted child, and data on a special study for multi-graded classes for the gifted are awaiting my analysis, and I have just answered a telephone inquiry about resources on education for the gifted, and I am scheduled to speak at a principals' conference on teaching literature to the gifted later in the day. At this time, I am reviewing and abstracting the annual reports from the thirty-two city school districts to the Chancellor. This assignment gives me a good insight into the many involvements of the public school system, from breakfast programs to evening uses of school buildings, and I note with deepening distress how rarely these districts report on any activity for the gifted pupils in their populations.

The fact is that, on this fine Autumn day, although I have become the sole resource on the gifted in the New York City Board of Education and I still have continuing responsibility of providing information and guidance on a wide range of topics related to the subject, mine has become a lonely and ignored voice crusading on behalf of this most neglected minority - our gifted children.

Mostly on my own, I maintain links with a small but active chain of proponents for the gifted across the country. I note with relief that the federal government has turned some miniscule attention to the gifted in PL93-380, following Marland's excellent, though depressing report to the Congress on the status of education of the gifted throughout the United States. I had given my suggestions at the USOE hearings as to what should and needed to be done for the gifted and had cooperated in developing the questionnaire used for that study. (12)

All the proposals that pass my desk on this Autumn day of 1971 are concerned with these - the disadvantaged, the racial and ethnic minorities, the non-readers, the handicapped, the bilingual. Nowhere among the over nine hundred proposals I must process is there one that is concerned with a gifted child. New York City, which had held a leadership role in the education of the gifted for years, is now considered to be a center for children who have nothing but problems. No district or school seems inclined to focus on this population and, when impelled to take action, it is negative. Classes for the gifted are abandoned or ruled out of existence by principals, district superintendents, and local school boards. One of the very first actions taken in many community school districts when the schools became decentralized in 1969 was the abandonment of the IGC classes for the gifted at the elementary level and the SP or accelerated classes at the junior high school levels. At this time, a survey of classes at the elementary level shows a drop in classes for the gifted in grades 4-5-6 from a peak of over 2200 down to fewer than 850 citywide. Even the specialized high schools are fighting for survival and must resort to state law for protection to continue to exist. The trend is definitely anti-gifted and I am frequently advised to give up my interest in a "dying " cause.

All of this is happening in a city that had a remarkable history of education for the gifted until the late sixties, when the tide turned. This was a city that had educated outstanding personalities and contributors to our society out of all proportion to the actual numbers in our system as compared with others. Let us digress briefly to look back on this history.

A Digression into Historical Backgrounds

In 1899, William Maxwell, Superintendent of Schools in New York City, said: ". . . what is wanted is a system by which the bright child shall receive instruction according to his brightness and the slow child according to his slowness, and that no child shall be disheartened and dulled by needless repetition of grade work." (4) Fifty-four years later, the Superintendent of Schools, William Jansen, began a report on the gifted with this statement: "It has often been said that it is manifestly unfair to expect the turtle to fly with the eagles. Conversely, one should not expect the eagle to crawl with the turtles." (4) The 1899 statement was a prelude to a directive which laid the background for homogeneous ability grouping in the city schools. At the same time, a system of skipping grades was instituted. In 1900, rapid advance (RA) classes were begun in one elementary school and, in 1915, this system was adopted in the Speyer School for grades 7-8-9. Two years later, it became a general practice in the junior high schools.

The central school idea, bringing together intellectually gifted elementary school children from different schools under one roof, was introduced at PS 64 Manhattan in 1917 in what were known as "Terman" classes. Thereafter, the idea of "Terman" classes spread slowly through the system. In 1922, two experimental classes were established at PS 165 Manhattan with intellectually

gifted children selected from grades three through six in neighboring schools. The first class consisted of children with IQ's mostly above 160 with a few between 155 and 159; the second class was for children with IQ's ranging from 134-154.

From 1935 to 1940, PS 500 Manhattan,known as the Speyer School, was established as an experiment for "mental deviates", the below-normal and the intellectually gifted. It was here that Leta Hollingworth of Teachers College, Columbia University, worked in cooperation with the city schools and produced her reports on giftedness. Especially noteworthy was her unfinished study (11) on gifted children with IQ's over 180 (later brought to completion by her husband, Harry L. Hollingworth).

The Speyer School experiment stimulated expansion of classes for the gifted in various organizational patterns throughout the city. This was strengthened by the adoption of a citywide policy for the gifted in 1942, which formed the basis of practices followed to this day with several modifications for both the elementary and junior high schools in grades 4 through 9.

Unlike the elementary and junior high schools, which are under local school board control, the senior high schools are under the supervision of the Central Board. They have tended to maintain their programs for the gifted and talented, even though, as of 1971, the specialized high schools were fighting for their existence and had to obtain legislative protection at the state level in order to survive the attacks launched against them. Even as late as 1978, their selection procedures had to be protected by a court order. New York City has become justly famous for its four specialized high schools: Stuyvesant (established 1906), Brooklyn Technical (estab-

lished 1922), Bronx Science (established 1938), and Music and Art(established 1938) with its allied Performing Arts (estabished in 1948). There were, and still are, furthermore, provisions for the gifted through honors programs in the academic high schools that service their local communities. Many of these compete favorably with the specialized high schools in meeting the needs of their gifted pupils.

There are approximately one hundred senior high schools in New York City, of which 78 are academic (including the specialized high schools) and 25 are vocational. Among the vocational high schools there are many that encourage individual talents and skills. For example, there is the school of journalism within the High School of Printing; the High School of Art and Design; the Food and Maritime High School; Aviation High School; the John Bowne High School, with its courses in horticulture and agriculture; etc. Although most of these do not have admission requirements for exceptionally high academic achievement like the specialized high schools, they do encourage special interests and skills and some do have entrance examinations in special areas. A recent experiment in individualized instruction is demonstrated at John Dewey High School, where the intellectually gifted may be expected to perform at their own pace and level.

Thus it will be noted that the city did have a good history of education of the gifted children beginning in grade four, and on rare and fleeting occasions, for those in lower grades. This plan was supported by a Central Board policy statement establishing procedures for classes beginning at grade four and up through grade nine.

The problem during this Autumn of 1971, as we begin this narration, is that the programs are fighting for mere existence, as one after another, they are being abandoned.

A New Day Dawns for the Gifted in New York City

On this fine October day in 1971, my phone rings. It is the Executive Director of the Vincent Astor Foundation. He tells me that Mrs. Vincent Astor would like to consult with me on doing something for the gifted. Could we arrange a meeting? Needless to say, I respond in the affirmative, but with hesitation. I had been approached several times before by persons indicating an interest in the gifted, but whose ulterior motives were exploitative rather than constructive.

All doubts I may have had vanished immediately when I met Mrs. Astor. She was genuinely interested in the subject, having just returned from England where it had been suggested that we in the United States were neglecting our most valuable intellectual resource, our gifted students. Mrs. Astor was most sincere in her interest and deeply understanding of the current plight of our children. What, Mrs. Astor asked, did I suggest? I had available the seventeen suggestions I had presented to the USOE hearings preceding the passage of PL93-380 and I had many years of experience on which to draw for possibilities. Two of my suggestions were especially critical to me. One was the need to reawaken the city to its obligations toward gifted students at all grade levels. Another was the desperate need for a program designed for the early childhood level, pre-kindergarten, kindergarten and primary grades. Both of these goals appealed to Mrs. Astor, especially since they were consistent with the Foundations aim of improving the quality of life in the City of New York. As I pointed out, we were losing large numbers of our population to the suburbs in part because parents were dissatisfied with the education their gifted children were being offered. Furthermore, we were thereby losing future citizens who could and undoubtedly would contribute to the improvement of life in the city, if they were offered an appropriate education and could continue living here.

After a brief discussion of procedures, it was decided that I should try to introduce both of these ideas to the appropriate authorities in the New York City Board of Education, this time with a promise of financial support from the Vincent Astor Foundation.

We are speaking of the year 1971. Incredible as it may seem, I found that even with financial backing, there was general reluctance on the part of districts and the Central Board to become involved with this unpopular topic. I received replies such as, "We need the money for the other children." "No, the community would not approve." "I'd rather not take a chance." "The gifted don't need help. They can take care of themselves. Get the money for the disadvantaged, or the minorities, or the handicapped, or the bilingual pupils." This last observation always irritated me, as it indicated a belief that there were no gifted among each of these pupil populations, while I was well aware of how many were languishing in classrooms, being bypassed by the endless parade of grants and special programs for every other child but themselves.

The saga of the school year 1971-1972 is not a good one. I had to sell the idea to various levels of authority and always against great odds. One superintendent was sympathetic but had decided to retire and withdrew his support at the last minute, saying he could not burden his successor with this potentially explosive issue. In one district, I had to plead with a totally negative school board, and was finally proud of my triumph in persuading them to try.

During these negotiations, there was a change of personnel in my bureau. Although I had the permission of the former director to pursue the matter, the new director was opposed. Not only was he opposed to sponsoring my in-

volvement in the project, but he also forbade me to approach any other division or bureau with the offer. After all, I had suggested, if I could not do it why not let someone else bring the benefits to the children? The answer was "No!"

Completely thwarted, I returned to the Foundation and explained the situation. I was asked whether there might be a change of heart if we waited. I suggested that anything was possible in an organization which was in a state of constant change. I also offered to make several suggestions for uses of the money through other channels, and submitted plans to that effect, even though I could not be involved without giving up my position. With sympathetic graciousness, Mrs. Astor said: "Let's wait and see!"

But, there were more changes in process at the Board. Superintendents retired or were retired by their local school boards. A new Chancellor took over the school system. My own bureau acquired still another director. By the Spring of 1973, I felt free to try again. The new director, Dr. Anthony J. Polemeni, encouraged me and gave me his full support.

I carefully reviewed my strategy before even approaching the Foundation. I had no intention of wasting their time with a plan that might lead to the same frustrating result as the previous year. They had generously offered us money, and we had turned it down, and yet they had left the door open in spite of our rudeness. I retraced my steps, approaching the most likely prospects. The new superintendent in District 2, Manhattan, Mrs. Rhoda Lansky, hesitated but finally approved the project for her district. During the trying interval of the previous year, I had received a letter from Mr. Harvey Garner, then assistant superintendent of District 18, asking that his district be included in any activity that I might initiate concerning the gifted. In the interval, he had become superintendent of this Brooklyn District.

When I approached him with my idea, he was most enthusiastic and supportive, and assumed the responsibility for convincing his local school board of the feasibility of my plan for the early childhood classes. With these two commitments in hand and the support of my bureau director, I now felt free to approach Mrs. Astor with a request for renewing our negotiations. Although I was embarrassed by what had happened the previous year, I felt that I could not let this opportunity for our gifted children pass. With a graciousness that I shall never forget, Mrs. Astor discussed my new plans with me and made arrangements for initiating a planning grant with the Foundation.

In telling this introduction to the inauguration of the Astor Program into the New York City public schools, I am trying to convey to those who are frequently disheartened by reversals early in trying to introduce educational innovations that patience and a little persistence can eventually lead to success. I presented the check for the grant to the President of the Board of Education, who greeted me with hearty thanks, remarking on how refreshing it was to have someone emphasize the positive aspects of our city's pupil population in the face of all the negative reports he had to read.

The Astor Program for Gifted Children was launched!

Major Goals of the Astor Program

The major goals of the Astor Program were two:

1. To promote continuing research, experimentation, and education of the gifted in the New York City public schools at all levels.

2. To implement a "host school" concept for gifted children on two levels:

   a. For children aged four and above who show unusual evidence of academic ability.

b. For students in regular grades who have exceptional ability and cannot be accommodated by their local schools.

The first goal of the Astor Program is not as well known as the early childhood classes have become, yet it was the more significant of the two goals. Its impact was on the entire school system and literally reversed the negative trend of education for the gifted.

Activities planned under this goal included:

1. Full-time availability of the director as consultant and resource to all branches of the city school system on subjects related to the gifted.

2. Funding for dissemination of information and educational materials.

3. Conducting Citywide Conferences on the Gifted where personnel could become acquainted with what was going on within and outside the city.

4. Continued participation by the director in conferences held by national, state and regional organizations where the gifted was a major topic of discussion.

A full discussion of the progress made toward achieving these goals is presented in Chapter 2. For the present, we may summarize briefly by saying that the city is currently deeply involved in funding, planning, and providing for gifted children. A memorandum from the Chancellor on budgeting and innovations includes the category "gifted", long absent from such planning. There is an up-dated policy on the gifted. The tide has definitely turned. I receive many requests from schools, districts, and central office for guidance on planning for gifted children. Most doors are open wide and welcoming, with only a few hold-outs. The battle has not been won by any means, but at least the topic is no longer taboo, but one stimulating much discussion.

The term "Astor Program for Gifted Children" has become associated primarily with one aspect of our second goal: the establishment of classes for

the intellectually gifted beginning at age four.

The activities planned under this category were broad in scope:

1. To establish procedures for early identification of the gifted.
2. To establish "host" classes in central locations for children in the top one percent of intellectual ability.
3. To develop classroom management procedures that would be consistent with the nature and needs of the pupils.
4. To develop a "differentiated" curriculum that would reflect what is known about the learning needs of the gifted.
5. To plan our work in such a manner as would insure the ultimate institutionalization of the program, independent of private funding.

These activities were all carried out, with varying degrees of success and completion.

A great deal remains to be done, but we have at least made a beginning. And, we have pioneered an effort that has become a model for school systems here and abroad. The task has not been easy, but the rewards have been most gratifying.

2 COORDINATING A RESOURCE CENTER: THE DIRECTOR'S TASKS

With confirmation of the funding grant, the Gifted Child Studies Unit of the Office of Educational Evaluation acquired a more functional status. Not only was the director able to devote full time to work on the gifted, but also a supporting staff was made available. The first five months, from September, 1973 through January, 1974, were devoted to planning for the early childhood classes and to developing strategies for alerting the city to the educational needs of the gifted at all grade levels. This chapter is devoted to the actions taken in achieving this latter goal. In fact, the activities described in these pages constitute a "job description" for a position as coordinator or director of programs for the gifted in a large city school system. With minor modifications, they would also apply to similar positions in smaller communities. When the time came to pass on to other school districts some of the requirements for a program coordinator, we were able to cite examples from our own experiences.

Guidelines for Functions of a Resource Center

In general the following suggestions summarize guidelines to be followed in achieving the goals for a Resource Center on the Gifted:

1. Involve policy makers at high levels of authority.
2. If you are dealing with a controversial issue, provide opportunities for ventilating feelings, repressions, concerns, objections.
3. Provide extensive information on the subject.
4. Use authoritative sources and prestigious personalities to help sell your idea.

5. Know the regulations governing your institution or school system, work within their framework, and be prepared to interpret these for others.

6. Match your services to local needs. Be flexible.

7. Be prepared to answer the general questions that will be asked or know where the answers can be found.

8. Provide for teacher training and staff development, or know where such services can be obtained.

9. Service the public, parents, and parent groups with the same zeal and concern you devote to the system in which you work.

10. Anticipate trends and prepare for their possible materialization into legislation or other provisions.

11. Be prepared to give advice on proposal writing or know where such services can be obtained.

12. Attend professional conferences and read the professional journals and publications relevant to the field.

13. Pay close attention to public relations. Use the media to help promote your interests, if and when you are sure the impact on others will be positive.

14. If you are not genuinely interested in the gifted, get another assignment! It is not an easy job and will take up all your time and energies, as any job worth doing would.

The following pages describe how each of these functions, many of which overlap in the process of implementation, were carried out by the Astor Program in achieving changes in the educational system. Although we are here describing the work of the Astor Program, it should be borne in mind that our progress was intertwined with the general movement toward greater attention to the gifted on a national scale that was developing at the same time. Our particular satisfaction derives from the fact that we were in the mainstream of events from the beginning, rather than lagging behind other systems. As a matter of fact, we were instrumental in involving the major cities in a national program, which had formerly been restricted to state level personnel only. The National/State Leadership Training Insti-

tute on the Gifted and Talented was funded by the federal government to promote action on the gifted at the state level. A meeting was held in our office, where we proposed that large urban areas had special programs and needs, often quite different from statewide concerns, and that they should be involved in the Institutes as units in their own right. As a consequence of that meeting, New York City was invited to participate in the next Training Institute, where we wrote a master plan for educating the gifted in New York City. Our participation in this Institute was made possible by the Foundation grant. Also as a direct result of activities in the Astor Program, the director was appointed to the State Advisory Council by the State Commissioner of Education to represent the interests of the gifted in a statewide capacity. This made it possible for us to participate in policy making that would affect our gifted children in the City, as well as in other parts of the State.

Involving Policy Makers at High Levels of Authority

In a large school system, it is possible to begin and end a most promising enterprise without really involving high level policy makers. It is a common pastime among teachers to discuss the many activities that held real promise for educational innovation and improvement and that died on the vine, because they remained concealed at lower levels of responsibility. In the Astor Program, we had undertaken a major innovation which was intended to change an educational process throughout the system. It was essential that those who must make the final decisions be involved from the very beginning.

A first step in reaching the entire city on this issue was made when the Board of Education, in public session, accepted the planning grant from the Vincent Astor Foundation. The psychological effect of this action cannot be underestimated.

A brief note on the technical structure of the New York City public school system may help here. Legally, the Central Board of Education is known as the City School District of New York and is recognized at the State level as one unit, in spite of its thirty-two local school districts and decentralization. All State and City funding goes to the Central Board and is re-allocated to each school district by means of a complex formula that includes pupil population as one factor. Districts then allocate these funds in terms of local priorities, which reflect community pressures as well as broad educational policies. Most districts tend to act as independently as possible of the Central Board within the boundaries of legal limitations. However, when funding becomes available from other than tax levy sources, districts become alert and responsive to the new areas. They want to be sure to get their share of the pie. Copies of the Board's calendar reach every school district, and they are aware of policies and activities taken. Therefore, when the Board accepted funding for the gifted as a new source of monies, districts took notice. They also felt freed of the self-imposed restraints against taking action for the gifted, since there had been no protest against this first resolution accepting the funds. Board meetings can be very lively occasions when there is public protest against any action they may be contemplating.

The Citywide Conferences and Training Institutes

The impact of this first step became even clearer when we called the first Citywide Conference on the Gifted in October of 1973. Under sponsorship of the Chancellor, the conference was conducted by the Office of Educational Evaluation, recipient of the grant, in the Great Hall of the Board. The response exceeded our highest expectations. In spite of the most inclement weather, representatives from thirty school districts at-

tended. (A representative from one district was land-bound across the river because no ferries were operating, and the representative of the other was ill.) In addition, representatives of many Central Board offices, including Curriculum and Planning, Guidance, High Schools, Libraries, Special Education, Research, and others came. As the meeting progressed, it became more and more apparent that there was general relief on the part of many that now one could speak about the gifted without facing general indifference or even outrage. The gifted pupil, the consensus was, had been neglected for too long.

This first meeting provided a forum for sharing concerns, doubts, hopes, and plans. It was apparent that, freed from the repression of several years during which the topic of the gifted had become unpopular, there were many sections of the city where staffs were eager to make a start on restoring the city to its leadership role in this field. Plans were made and suggestions given for a more extensive citywide conference on the gifted to take place the following spring. The grants from the Vincent Astor Foundation made possible this and four more elaborate citywide conferences, which were held in the spring of each year, from 1974 through 1977.

Attendance grew from under 100 participants in 1974 to over 650 at the 1977 conference. Participants came primarily from the New York City school system, but many from outlying areas also attended, including Connecticut, New Jersey, Pennsylvania, Virginia, Washington, D.C., Massachusetts. The popularity of the conferences grew from year to year, attracting more and more attention, and setting patterns for others to follow.

The purposes of the conferences were:

1. To encourage schools and districts to take an open and active interest in the gifted.
2. To provide an opportunity for sharing programs, plans, and activities in progress.
3. To expose city personnel to a wide range of resource personnel in the field of the gifted.
4. To report on the activities of the Astor Program Classes for the Gifted at the early childhood level.
5. To provide a forum for discussion of critical issues in the area of the gifted.

The conferences were planned to include large and small group sessions, workshops, exhibits of pupil products, and award-winning projects in the arts and sciences. The luncheon featured guest speakers in significant positions and musical entertainment provided by students of the High School of Music and Art.

At all conferences, the presence of students was a dominating feature. As we have stated, students from Music and Art entertained luncheon guests with their music. Honor students from the specialized high schools for gifted students serviced the conference at registration and as hosts and hostesses. Students from these and other high schools took part in panel discussions, as audience participants, and in exhibiting and explaining their award-winning projects as Merit Scholars, Westinghouse Scholarship winners, or Mathematics Olympiad champions. They displayed artistic skills, such as silk screening and portrait work and exhibited award-winning sketches, textile designs, and paintings. A high school sophomore, Mr. Steven Klein, was a featured guest speaker at one of the luncheons, receiving a most impressive accollade for his presentation on the lot of the gifted child in our society. It was our philosophy that the ultimate

recipients of our services, the students, had a right to be heard and seen at these occasions, and we saw to it that they were seen and heard. In fact, we arranged for their exhibits to be placed in strategic centers so that they could not be overlooked.* They were placed in a large ballroom, each at a six-foot table, surrounding the area where coffee was being served and which had to be passed in order to reach the major meetings. Our problem was not to get people to enter this area, but rather to draw them away from the fascinating work of the pupils to attend the major sessions.

At these conferences, the city's supervisory and instructional personnel were able to hear outstanding leaders in the field of the gifted who were brought in from all over the country to share their skills, experience, and knowledge. Contributing also to the success of the conferences was the fact that the Chancellor sponsored them and was a featured speaker, and that most of the members of the Board of Education attended. At one conference we were honored by the presence of Mrs. Astor, who spoke to our guests at luncheon.

A list of the conference speakers and participants, with their affiliation, is given in Appendices 1,2. Almost all contributed their time gratis and helped to make our conferences resounding successes. Also included in the listing are the names of persons who spoke at staff development institutes held under our Title IVC grant, to which the Astor Program made major contributions. (See page 24.)

*We had learned from a previous experience that this was the more strategic plan. When exhibits are isolated in separate rooms, they can be and are overlooked by conference participants. One needs to tease the appetite!

Topics covered in the large and small group sessions included the following:

1974 CONFERENCE*

Speakers - General Meetings

The National Scene: New Directions - Gallagher

Upstream All The Way: Planning and Funding - Vassar

The View From Albany: State Cooperation - Ming

Let's Start Them Off Right! - Pohl

Some Notes on the International Scene - Neuman

Reactions to Attending a Specialized High School - Student Panel

Parents React to the Astor Program Classes - Parent Panel

Sessions

The Public High Schools and the Gifted - Polatnick

Guidance Needs of the Gifted - Blackman

Developing Creativity Training Materials for Elementary School Students - Renzulli

A Junior High School Program for the Gifted - Stern

Using State and Regional Resources in Developing Programs for the Gifted - Ming

Encouraging Artistic Talent - Rose

The Parents' Role in Educating Their Gifted Children - Cravats, Ginsberg

Reactions to Education in a Specialized School for the Arts - Student Panel

Providing for the Gifted at the District Level - Superintendents

The Washington Scene: Resources on the Gifted, Problems of Funding and Legislation - Neuman, Jackson, Ginsberg.

*See Appendices 1 and 2 for the affiliation of the speakers.

1975 CONFERENCE*

Speakers - General Meetings

The Gifted Evaluate Their Education in the New York City Schools - Taffel and Students

Comments on the Astor Program - Astor

Education of the Gifted in New York City: A Commitment - Anker

The Early Education of a Play Director in the New York City Schools - Kahn

Sessions

The Astor Program - Ehrlich, Teachers

Guidance for the Gifted - Blackman

The Role of the Parent in Education of the Gifted Child: At Home, in the School, in the Community, and in Legislation - Ginsberg

District Programs for Gifted Pupils - Kaplan

The Mark Twain Junior High School - Fishenfeld

The Gifted in Science - Milgrom

Teacher Training and the Role of CSA and UFT - Kraus, Tannenbaum, Seittelman, Warsaw, Goodman

A Special Elementary School for the Gifted - Lipschitz, Knoll

Legislation and Funding for the Gifted - Ming, Richard

What Next? The Future of Education for the Gifted - Garner and others

*See Appendices 1 and 2 for the affiliation of the speakers.

1976 CONFERENCE*

Speakers - General Meetings

A Dream for the Gifted - Sato

The State's Responsibility Toward Its Gifted Pupils - Nyquist

The Dilemma of the Gifted Child in School: A Student's View - Klein

Sessions

District Superintendents Discuss Their Planning for the Gifted - Garner, Aaron, Weingart, Weldon

The Astor Program - Ehrlich and Teachers

Career Education for the Gifted - Blackman

Parents Share Questions and Problems About Their Gifted Children - Lopato and Parents

Challenges and Programs for the Gifted in Comprehensive and Vocational High Schools - Polatnick and Principals

The Role of Art Education for the Gifted Child - Rose, Klein

Mark Twain Junior High School: A Progress Report - Fishenfeld

The Future for Education of the Gifted: Nationally and Locally - Ming, Jackson

Values for the Gifted Student - Taffel and Students

Artists at Work - Students from High School of Music and Art

Mathematics and Science - Students from Stuyvesant High School

Technology - Students from Brooklyn Technical High School

1977 CONFERENCE*

Speakers - General Meetings

A Day in the Life of the Astor Program - Ehrlich

A Foundation's View of the Astor Program - Gillies

Who Is Going to Solve the Problems of Today and Tomorrow? - Taffel

*See Appendices 1 and 2 for the affiliation of the speakers.

Sessions

Teacher Training for the Gifted - Tannenbaum

Early Identification of Artistic Talents - Klein

Creativity in Science and Mathematics: A Model Program - Kopelman

Business Careers for the Gifted - Blackman

The Mark Twain Junior High School for the Talented and Gifted: An Overview and Students' Reactions - Fishenfeld and Students

The International Baccalaureate Program at Francis Lewis High School - Serisky

The Role of Local School Boards, Parents and Communities in the Education of the Gifted - Lopato and Others

Astor Program District Superintendents Look to the Future - Superintendents

RISE: High School Students As Mentors to Junior High School Students - Katz and Students

Mini-Schools for Gifted Children in the Junior High Schools - Abramson

The Role of Health Careers in Education - Rubinstein and Students

Special Problems of the Disadvantaged Gifted - Passow

District 6: NASA Aerospace Project - Herman, Teachers, Students

Problems of the Present and Future as Viewed by Students - Taffel and Students

Art: Our Work - Students from the High School of Music and Art

Artists at Work - Students from the High School of Art and Design

Science and Mathematics - Students from Bronx High School of Science

Technology - Students from Brooklyn Technical High School

Solar Energy - PS-IS 187

Journalism - Students from New York School of Printing

By 1978 there was a proliferation of conferences and training institutes on the gifted in the metropolitan area, sponsored by various institutions. This was a most gratifying development, since we had been the sole source of activity for far too long. Many of those who had been our guest speakers were asked to repeat or extend their observations at these new conferences, making possible a spreading network of information and awareness.

In addition to the conferences sponsored by the Astor Program, our office, with the aid of resources made possible by the Astor Foundation grant, obtained a Title IVC grant, which involved thirteen of the city's school districts in preparing long-range program plans for their gifted populations, establishing resource centers in their districts for staff use, and training a cadre of supervisors and teachers in the education of the gifted. The Astor Program director ran five program planning sessions in each of two years, where instruction was given to the district representatives on writing a program plan and the basic information required to fulfill this task. She also arranged two Training Institutes in 1977 and 1978 where, once again, the staff and personnel of these school districts were able to meet with outstanding specialists in the field of the gifted. The six Astor Program districts were included in this plan, and all the teachers of Astor Program classes were able to attend the sessions. The subject matter covered at these sessions included: research on the gifted, teaching the disadvantaged gifted, identification problems and approaches, program plan writing, legislation and funding sources, curriculum planning and development, proposal writing, testing, problems, etc.

The combined effects of the Astor Program and Title IVC activities created a situation where, in 1977, there were twelve school districts that had written program plans which included consideration of the districts' needs, definitions, identification procedures acceptable to their own communities, teacher training, curriculum development, patterns of organization, budgeting, time plans, and strategies for change. Each district had a well stocked resource center of literature and materials on the gifted and the beginnings of a core staff with training and information about their education. When, in 1977, New York City received a special appropriation of one and one-half million dollars to be used for the gifted, these districts were ready with plans and ideas on directions they could take with their particular allocations.

Significant in this respect is the fact that, by 1977, the City had been sufficiently alerted to the needs of its gifted population to actually allocate monies for their education, an item which had been missing from the budget for many years and for which the Astor Program director had led a vigorous campaign. This was a major topic of discussion at a luncheon meeting, where the President of the Vincent Astor Foundation and the Executive Director met with the Schools Chancellor and the director of the Astor Program. The Chancellor's commitment to education of the gifted played a significant role in continuation of our grants. The Astor Program director had also been consulted by the budget office of the City Council and by two Councilmen on the feasibility of these allocations in 1977 and 1978 and had been able to marshal cogent arguments in their favor. The budget lines remained. The importance of being prepared with a rationale for the existence of a function cannot be too strongly emphasized.

The conferences, of course, were the most dramatic and the most visible of our activities to turn the tide in favor of the gifted. But they constituted only a part of our program. We took many other directions.

Information and Consultant Services

The Gifted Child Studies office had become a Resource Center, in itself, for information and reference on the gifted. The director had available a personal collection of "fugitive" papers, as well as books, articles and other literature, dating back many years. This background source made it possible to respond to requests for information and provide source material for the many persons who called or wrote to make inquiries. With freedom to devote full attention to the gifted, it was possible to respond in greater detail to the many requests made. Eventually, it was found best to prepare brief papers or excerpts from the literature on various topics, which could be mailed to inquirers. The Astor Foundation grant made this possible, since there had never been sufficient personnel or financial resources for meeting this need.

As part of this service, the director was asked frequently by school principals and district superintendents to assist with the starting of a class or program for the gifted, to conduct teacher training sessions, to advise on proposal writing, to speak at conferences of principals, or to address parent groups on the subject. A review of the calendars for these years shows that every district in the city received some form of service through the auspices of the Astor Program. Appendix 3 presents a summary of the city school districts, Central Board offices, and other agencies

and the type of service they received through the Astor Program. This record is not complete as there was no time to keep the detailed data such a report would have required.

In order to service the schools more effectively, the program director had to be alert to what was taking place not only within the city, but throughout the country. Membership in professional associations, subscriptions to the appropriate periodicals, participation in conferences held by other communities, and cooperation with State and Federal agencies in their activities for the gifted were all part of the task. These activities also made it possible for the director to keep the school districts posted on national events concerning the gifted, as well as possible sources of funding. In this respect, we were able to initiate action that led to significant grants to the city. We wrote the Title IV C proposal on our own initiative in order to involve thirteen school districts in program planning. We advised one district on how to get a federal grant of $350,000 under Title VII of the Education Act for teaching science and mathematics to gifted children in grades four through six. We advised the Bronx High School of Science to submit a proposal for a model program on creativity, which they subsequently received. Other districts asked for and received aid in preparing proposals in smaller amounts for special projects they wished to start. When one of our junior high schools (Mark Twain) was ordered integrated by the courts, we were consulted on the possibilities of initiating a magnet school for the gifted and the problems that might be involved. The school is now in operation and functioning very well. Other junior high schools are following their example. The most recent success was the federal grant awarded to District 22 in 1978 for $406,000 to replicate the Astor Program in eight classes.

Public Relations

It is difficult to reconcile the professional life with the demands of publicity, yet public relations are an important component in the success or failure of a project.

Early in the history of the Astor Program, we were sensitive to the antagonism by influential groups to education of the gifted. Like many of the local school districts, we were not especially eager to be too visible, lest we be attacked even before we had started our work. Having successfully passed the first hurdle of a Board of Education public meeting, we were not too keen on pressing our good fortune.

Yet, we needed publicity to recruit pupils for our early childhood classes. In order to reach as large a population as possible, we had to have recourse to the media and publicity could not be avoided. Proceeding with meticulous attention to the implications of every move, we braved forth into enemy country - and were happily surprised. Each effort led to greater support for our work as more and more of the public heaved a sigh of relief. At last, they said almost literally, somebody is doing something about children who are gifted and want to learn.

First, we used the media - radio, television, and newspapers - to recruit pupils. City desks cooperated with us by entering items about our requirements and the foreign language papers, Spanish and Chinese, graciously translated our articles and ran them in the local press. For recruitment purposes, we also wrote to community and day care centers, psychological and psychiatric clinics of hospitals, test guidance centers, and, of course, our own schools.

It had been our custom, annually, to organize a public service radio program on the gifted in cooperation with the Information Services of the Board. We took advantage of that opportunity to advertise our program. Local radio stations cooperated by picking up the item. Since our children were not yet in the public schools, using these avenues to reach them seemed the most feasible. The response was overwhelming and merely confirmed what we already suspected. There was a great demand for our services.

It was, however, in promoting education of the gifted in general that the media were most helpful. We responded to all requests for interviews, so long as we were able to ascertain that treatment of our materials would be favorable. Radio, television, periodical, and newspaper interviewers were advised that we would not be associated with any publicity that perpetuated the negative myths about the gifted. Insofar as we were able to control the situation, our efforts were successful. I recall only two instances where we had difficulties. In one instance, a TV station sent an interviewer who was openly and definitely hostile to the gifted. She was invited to leave or to acquire some facts before continuing in her beliefs. She chose to stay, but was taken off the assignment. We were "burned" in a TV broadcast, when the hostess was obviously unprepared for the session. Since we were on camera, we could only struggle to salvage a bad situation. We duly registered our complaints with the producer and refused further involvement.

On the whole, however, the media became friendly allies. We served as a resource for countless articles and broadcasts, leading the writers and interviewers to sources of information. The major TV networks televised our Astor Program classes. National and local radio services asked for inter-

views which they used as public service features. Our work was described in several periodicals. The media were invited to all our Citywide Conferences. The "New York Times," "Daily News," and the "Post" covered the events, and several radio and TV stations gave us advance publicity.

We established a pleasant working relationship with several writers, and provided them with a great deal of resource material. They did not always acknowledge their sources, but they did present the case for the gifted favorably, which was the goal of our work.

All this favorable publicity had an impact on the success of our work. It helped to create a receptive climate for the gifted generally, and built a system of public support for the idea of early education of the gifted.

The work of the Astor Program has become known on an international scale. The director's guidance has been sought for implementing similar programs in Venezuela, Canada, Israel, Bulgaria, Iran, and South Africa. Within the United States calls and inquiries about our work have been made by representatives in almost every state. The interest has reached the stage of actual implementation in several school systems, such as Minnesota, Illinois, Maryland, Massachusetts, and others. Even though the program may not be duplicated as a whole, our curriculum materials are being used as guides in several hundred school systems.

There are two aspects of this phase of public service that deserve attention. First, the proper use of the media can help insure a program's success, if it has merit. Second, having a product to share and distribute should be a major goal for those who are trying to have an impact on a larger community. One should add a caution. Publicity for its own sake has little value. Publicity can distort, misrepresent, and perpetuate unfavorable beliefs

The gifted, unfortunately, are victims of a mythology of misconceptions, which are more likely to appeal to the public than the actual facts.

Results

Did we accomplish the task we set ourselves? Did we change the thinking of a city school system with respect to its gifted pupils? Did we introduce an awareness of the problems and make available the essential information to resolve as many as possible? We can only judge by the present status of education for the gifted in New York City.

In 1972, education of the gifted in New York City had reached its lowest point since 1942. In 1972, a gifted child had to attend his local school, even if it had no provisions or program for the gifted. As a direct result of the Astor Program grant, an addendum was added to the city's promotion policy (Special Circular #46, ADDENDUM, December 1974) in which school districts were told that parents had the right to request a transfer for their child to another school within the district that could meet the child's educational needs. If the district had no way of meeting his needs, the parents had the right to request a transfer to another school district where the child's needs might be met. An interesting result of this policy was that many districts became concerned about keeping their gifted populations and began making provisions for the gifted.

In 1972, there was no mention of the gifted in the education budget of the city. By 1977, there was a budget line for the gifted in the Central Board's plans, and every district had received an allocation of funds for these children. In 1972, no district had a program plan for educating its gifted children; in 1977, there were twelve districts with program plans in varying stages of development. In 1972, classes and programs for the gifted

were either non-existent in school districts or were rapidly vanishing; since 1972, there has been a resurgence of interest in these classes and new ones are opening up rapidly. In 1972, it was virtually impossible to find persons at supervisory levels or teachers with sufficient knowledge to give guidance and training in education of the gifted; in 1977, there were cadres of such personnel in many school districts who were passing on to others what they had learned. In 1972, there were few persons interested in the area of the gifted and no conferences were available within the city on the subject; in 1977, there were so many institutes and conferences in the metropolitan area that we no longer felt it was necessary for us to continue our own efforts in this area. We had almost reached the point of duplication of activity.

Although the primary goal of alerting the city to the needs of its gifted population has been achieved, there is no time to relax one's efforts. The fact is that education of the gifted remains one of the most fragile goals of educational systems. When there are budget cuts, it is usually the lines for the gifted that are the first to be eliminated. We have come a long way in our crusade, but it is not one that can ever cease. The gifted are a vulnerable group in our society, and there are still too many groups and individuals who feel that education of the gifted is an expendable activity. Within the limits of our funding and abilities, we have achieved our goal; but it should be viewed as a mere stepping stone to the larger goal of attaining security and permanence within educational systems for all gifted children so that their education is not left to the caprices of politics, prejudice, and economic variability.

PRESENTATION BY A STUDENT AT A CITYWIDE CONFERENCE FOR THE GIFTED

My name is Steven Klein. I am a student at Sheepshead Bay High School in Brooklyn. I feel it is my responsibility to tell you of the dilemma of the gifted child in the schools which I have attended.

Beginning with the first years of elementary school, the gifted child is pressured by his peers not to reveal either his intelligence or his intellectual curiosity. If he chooses to do so, he is made an object of ridicule and finds himself excluded from social groups within his class.

If the child lacks self confidence and the reward provided for his work by the teachers is outweighed by his need for acceptance, he ignores his special abilities and regards them as detriments. The child then disassociates himself from these abilities.

If the student has the self confidence necessary to enable him to withstand the constant derision, he turns inward and learns to reject his classmates as they reject him. This takes place at an age which is crucial with regard to learning to live with others.

In the years to come, the gifted child constantly faces the contempt of students who are envious of his ability.

Considering his relationship with others, it is not surprising that the gifted child is likely to develop an inferiority complex of some sort.

As he enters high school the student is likely to meet others similar to himself. Together they form a clique and adopt an unhealthy, condescending social attitude towards others. The gifted child then depends upon this exclusive group for security and support. His social contact is severely limited. This tends to stunt his ability to develop a socially oriented personality.

In order to rationalize this inability to perform socially the student isolates himself further in Honor Classes and Independent Studies. At this point the system is just beginning to provide guidelines for the development of his intellectual capacity. . . . The purpose of education is to develop the potential of and provide the guidelines for the general development of students. In the present system, a great deal of potential is never realized. . . . Diversity is being limited. . . .

What kind of social attitude does a child develop toward others when he is continually being ridiculed by them? The frustrated child lashes out at those who formerly failed to accept him. The satisfied intellectual respects all men. . . .

(Steven was fifteen at the time he made the presentation from which the above excerpts were taken. He is now attending a prestigious college in the East.)

3 PLANNING AND ADMINISTRATION

Innovative educational practices, even though they are funded for limited periods, should involve long range planning for eventual institutionalization if they are shown to be successful. Too many programs with real promise have vanished into oblivion because no effort was made to insure practical adaptations and incorporation into the existing structure.

As one whose task for several years had been to process hundreds of programs through the evaluation stages at Board of Education headquarters, I had viewed with real distress the all too frequent demise of such promising studies. I had every reason to believe that the Astor Program should and could be assimilated by the school system. Therefore, I planned from the very beginning to use as many administrative procedures as possible that could be meshed into the framework of the complex structure of the New York City Board of Education. This goal did not prevent the introduction of modifications and changes that depended more on local district philosophy than on the more rigid legal regulations binding upon the total city.

Teacher Selection

An important example of this concerns teacher selection. The New York City school system has a strong union contract. It also has teacher requirements that are unique unto itself. Teachers must pass examinations by the New York City Board of Examiners, and only under special circumstances are other qualifications considered. Since our goal was the continuation of the program after private funding ended, we made licensing by the New York City Board a first requirement for employment. It would have been even more de-

sirable to employ only those teachers who had regular assignments. This proved to be quite difficult, as few teachers cared to risk leaving a secure post for a program whose continuity had no assurance. We compromised by taking licensed teachers who had either worked as long-term substitutes or who were awaiting appointment, as well as those with regular appointments who were willing to take their chances with us. Thus, when a broad personnel policy change occurred during our second year of operation, which virtually eliminated the employment of those who had not been regular appointees, we were able to continue our work with a core staff and add new teachers as needed.

Although teacher selection and characteristics are discussed elsewhere (Chapter 4), an administrative aspect should be noted here. In order to obtain maximum cooperation and involvement by district and school supervisors, we invited teacher recommendations by them. Although the final selection was made by the director, careful consideration was given to each recommendation.

Selecting Participating Districts and Schools

In selecting school sites for the program, several factors were considered. These were as follows:

1. The local administration, including the district superintendent and the school principal, had to indicate a concern for education of the gifted.

2. Where possible, only those schools were selected which had a history of classes for the gifted or special programs for the gifted at the higher levels. This was done to insure continuity for the pupils, who would need to be placed in such classes, if the funding should cease or as they progressed to higher grades.

3. Accommodations for the first classes had to be quite spacious. Not all school buildings can afford to give up space for experimental programs, especially if they are operating under crowded conditions. The schools that were finally selected had adequate space for the plans we had for the children. Later, as the classes moved up in grades and spread through

other schools, certain restrictions were placed on our work because space was not available as we had hoped.

Since city school buildings vary in structure and architectural characteristrics, special attention was paid to such factors as: accessibility of outdoor play, presence of water in classroom for water play (sink, basin, etc.), bathroom facilities within the classroom or near it, eating facilities (lunchroom space). These are serious considerations when one bears in mind the ages of the children and the sizes of our schools. Children do need outdoor play. If the classroom is located on an upper floor, there is the question of time involved in bringing the young ones to the play area. Teaching efficiency is lessened when an activity area is remote from the classroom, as can occur in some of our very large schools, or by passing through another class, a situation one finds in some buildings. Lunchroom facilities are a serious problem, especially in schools where there is an excess pupil population and the lunchroom is too small to meet all needs. The lunchtime experience can be quite overwhelming for very young children, even if space is reserved for them in a remote corner of an enormous cafeteria. In fact, this problem was solved by having the children eat their lunch in the classroom under teacher supervision. Although this created some problems of teacher coverage and meeting union restrictions, we did manage to balance the issues.

4. Another factor in selecting school sites was availability to public transportation. Since these were to be central classes, servicing large areas of the city, sites had to be selected that were centrally located, near bus or subway lines. There are sections of the city where transportation by bus from great distances is not feasible. In such sections, as in the borough of Queens, parents relied heavily on the car pools they formed.

5. An important consideration was the administration's attitude toward involving the pupils in the general activities of the school. Usually, programs that are independently funded tend to be treated as uninvolved tenants in the building. Our purpose was to provide a regular school

environment, in which the Astor Program class was to be but one of the many classes in the building, participating and interacting in all assemblies, fairs, and other school activities.

Early Problems: Site Selection During the First Year

Although it was the hope of the Astor Program that early learner classes could be situated in each borough and possibly in more than one district of each, it was decided to make a beginning in only two locations in February, 1974. The Manhattan location was selected because that district covers a wide geographic area and has schools that are easily accessible to all other sections of the borough. The district's history of concern with education of the gifted was also a determining factor. Selection of the Brooklyn district was based in part on an expressed interest by the Superintendent in developing programs for the gifted that would provide a kind of continuity that was envisaged by the Astor Program.

After the Astor Program was inaugurated, many other districts expressed an interest in being hosts to "early learner" classes. However, at the beginning of the program, during the planning stages, there was little interest or concern with this segment of the population, and several school personnel who were approached actually refused to be involved. Happily, that attitude has changed considerably, largely due to efforts made possible by the Astor Foundation grant and the success of the Astor Program classes.

The First Brooklyn Class. The Brooklyn school provided two large adjacent rooms for their early learner class. Unfortunately, there was no connection between the rooms and it was planned to create a connection through a closet located between the rooms. Many requests to remove the barrier were made, but it remained for several months. For a program that

was designed for free flow from one activity to another, this was a serious impediment.

The First Manhattan Class. The number of pupils in the first Manhattan class was limited by the size of the room that was finally assigned to the program. Although it had been agreed originally that two adjacent rooms would be made available, a change in administration led to altered plans. This class was transferred to another school at the end of the school year.

Problems which arose during the first year with this Manhattan class were directly related to changes in administration that occurred during the period intervening between the planning meetings and school opening. There was a change at significant levels. A new superintendent had been assigned to the district, with attendant changes in supportive personnel. An interim principal was assigned to the school, with all the insecurity such a position implies. It is always difficult to implement programs in school systems without the direct involvement of the administrators. When, as occurred here, a commitment is made by one group and is inherited by a new person who did not participate in the original planning, problems must be anticipated. In this case, we found that the school would not be able to provide follow-up for the children, to make necessary space, equipment, and supplies available, or to integrate the children in regular school activities as was required by the program. A transfer was made to another school within the district whose commitment to education of the gifted had been well-known for many years. Although we had requested this assignment in the first place, we could not obtain approval.

Early Problems: Delays in Starting Classes

Although the program was scheduled to begin on February first of 1974, many factors combined to delay the start of the classes. Among these factors were: an injury sustained by a teacher, which incapacitated her for work; a reaction to medication sustained by a second teacher, which would delay her return to work beyond a reasonable time for the program; the sudden illness of the father of one of the educational assistants selected, requiring her attentions in another state; failure of one district to equip the classroom as promised and in time. Nevertheless, the program did get under way. The Brooklyn class started on March 4; the Manhattan class, on March 25, 1974.

In subsequent years, other administrative and organizational problems interfered with the start of classes. In 1974, there was a teachers' strike in the school system, which delayed the start of the classes by several weeks. In 1975, there was a severe budget cut, which disrupted all personnel assignments and delayed the appointment of teachers to the program. In one school, the start of the program was delayed to December 1, because funds could not be freed early enough to include them in time for September. At another school, a new set of personnel regulations created havoc with the start of their program while teachers were shuffled from one assignment to another.

Problems of Coordinating Administrative Activities

Procedures followed in administering the Astor Program were dependent on the relationship between the Central Board of Education and the semi-autonomous status of the thirty-two school districts of the city, whose pupil populations range from approximately 16,000 to 32,000.

The Gifted Child Studies (GCS) was, during most of the Astor Program history, a part of the Office of Educational Evaluation, which was directly responsible to the Chancellor. When, in a reorganization move in September, 1976, the GCS was transferred to the Division of Educational Planning and Support, it was still a Central Board operation.

Central Board offices may operate in consultant and service capacities to the school districts, but do not prescribe specific activities for them. Except for broad policies concerning all school children from grades K through 9, local school districts are quite independent of the Central Board.

This over-simplified explanation may serve to clarify some of the modifications and adaptations made in the program. It was necessary to cope with the philosophies and problems of each community, both at the district office and in the local school. For example, in one district the project director had to appear before the local school board to explain and "sell" the idea of early childhood classes for the gifted. In another district, she had to meet with and work closely with the parents' association of the school to obtain acceptance. In still another district, she worked through community persons active in the area to obtain cooperation. In still another district, procedures for screening pupils had to be modified to meet the objections of the community against use of the Stanford-Binet. The administrative adaptations were many and varied, and they persisted throughout the program. Great flexibility was required, as well as a thorough grounding in the nature and composition of each local school district.

Because this was a Central Board program, with supervision, rating, and responsibility for teachers resting with the director, a precarious tactical balance had to be maintained with the local school principals in whose buildings the program was housed. This was especially important because they were responsible for the safety and welfare of all pupils in their buildings and because they had building schedules and responsibilities to which we had to conform or accommodate. Most important was our own goal of trying to have the Astor Program class integrated into the activities of the school and eventually become a direct responsibility of the principal.

This meant, of course, a tactful cooperation, involving a total awareness on the part of the director of the school principal's many responsibilities and pressures. Teachers, for example, were instructed to observe all school regulations and to accept the principal in his/her role in their dealings. In case of discrepancy between the director's and the principal's instructions, they were to follow the on-the-spot request, and leave the clarification to the director.

Another aspect of the problem was the relationship between Astor Program teachers and the rest of the teachers in the school. Much of this depended on teacher personalities. It is my personal regret that we did not arrange for a full staff meeting at each school, so that we could present our story to all the teachers. Principals did explain during their in-house meetings, but a presentation by the director would have helped prevent early misunderstandings. Also, teacher loyalties could be both an asset and a disadvantage. Where the teachers were part of the school or district, loyalties could be strained. Teachers who were "outsiders" found that the regular staff viewed them with suspicion or aloofness. A large portion of a training session was

devoted to exploring ways of coping with these all too human situations. With rare exceptions, the Astor Program teachers practiced the concepts they taught. They were understanding of the situation and tried to establish an open and friendly relation with the entire staff. They were exceptionally cooperative and had been instructed to share their skills and materials generously with the school. Time was built into the program to permit teachers to service the school in whatever capacity seemed feasible for the principal.

On the other hand, teacher loyalty to the program meant that they protected the integrity of our plans, and prevented the type of unintentional but disruptive interference that could divert achievement of our goals. For example, in one school an order was issued requiring all children throughout the school to spend a specific time period reading. For children in the Astor Program, this subtended the spontaneity and joyful approach we were trying to create. Reluctantly, we were given an exception when teachers called this order to the attention of the director. Another school order required children to meet outside in a school yard before going to their classes. Our children were younger than the usual age and our program required the early morning social exchange in the classroom. Elsewhere, an attempt was made to substitute a mathematics program, which was not consistent with our goals. Visitors were brought to the classes for "showing-off", which was completely contrary to our philosophy. Teachers, alert to our policies, discreetly tried to prevent these occurrences. Usually, they handled the situations at the local level, and knew they would receive support from their off-site supervisor. We were especially concerned about putting the children on display, as we felt such occasions would distort their perspectives of their own status

in the school. On this subject, we had specific policies, since we did not have two-way mirrors for the classrooms. No one, except the principal and local district administrators, could visit the class without prior approval from the director. A second policy was also enforced. With rare exceptions, only those in positions to institute changes in their own school systems were permitted to visit.

The path of implementing the Astor Program could not be said to have been easy at any time. The built-in flexibility of our plans, the resilience, dedication, and sheer persistence of teachers and staff, combined with the stubborn determination of the director, kept the program afloat and bobbing all the way. It is to be noted, also, that during critical times even the office of the funding foundation was deluged with calls of protest or inquiry. Throughout all that occurred, the Foundation gave generous moral support and showed remarkable patience with the idiosyncrasies of a ponderous bureaucracy.

The First Week of Classes

Children reported to classes on a staggered basis during the first week of school, so that teachers and pupils could have time to become acquainted with each other, and so that the children could adjust easily to the new school routine. They reported for the morning only during the first week, moving on to a full schedule during the second week of school. On the first day, older children who had had prior nursery school experience and who seemed to be most confident and independent reported. On the second day, a few of the very young children with no prior experience in nursery school plus other "experienced" children were added. On the third day, the children in the middle age range were added with one or two of the youngest, and

on the fourth day, the remainder were added. These usually were youngsters we felt needed to come into a fairly well established situation. On the fifth and last day of the first week, all children reported, completing the full roster for the class.

During this "adjustment" period, parents were asked to be available to stay with their children or to be "called in", in order to avoid any undue distress for the child in meeting this new world.

The system seemed to work very well, both for teachers and pupils. One child was quite unhappy about separating from the mother but, just as we were about to suggest postponing the beginning of school for him, there was a sudden reversal (as so often happens) and the child cheerfully joined the class.

It is to be noted that exceptionally bright children can be very sensitive at an early age. Because of their advanced intellectual abilities, they can and sometimes do imagine more terrors than the less intellectual child. Thus, we were concerned that due attention be given the emotional need of a child to find separation from a parent a "secure" situation for himself.

One teacher found a surprisingly successful approach to the problem of separating from the parent on the first days of school. Little Mei-mei, a late arrival, was quite upset when her mother turned to leave her on her first day. She cried bitterly, clung to her mother, and spent most of her time watching her to be sure she would not disappear. On the second day, as the scene was about to be re-enacted, the teacher asked the other children to help Mei-mei: "Tell her how you felt on the first day of school," she invited.

Little by little, each child told of fears of the "big building," of the unknown activities about to take place, of what might be expected of him. Collectively, they tapped the various sources of distress a child might feel in being separated from a parent on the first days of school. Then, with marvelous confidence, they told about how much fun they were having, how their fears had been unfounded, how they sometimes wished school would go on "forever." The climax of this little tale came on the third day when Mei-mei entered the room with a broad smile and scarcely turned her head when her mother left.

Daily Schedule

The Astor Program experimented with three alternative schedules. The regular school day for kindergarten in the school system is a one-half day program, either in the morning or afternoon, lasting for approximately two and three-quarter hours. Since our children were traveling great distances to the school, such a short day seemed an impractical arrangement, especially for parents who had to bring their children and pick them up from distances requiring as much as one hour of travel either way. We, therefore, began with a five-hour day, from about 9:00 a.m. to 2:00 p.m., and later modified it to a four-hour day, when we could not provide the teacher coverage required for the longer day. As the program moved from the private funding sector to public support, most schools continued the four-hour day, as being the most viable for this program.

The five-hour day included a supervised lunch hour, with a teacher in charge, and a rest period for the children. The four-hour day included a snack period in mid-morning and a rest period. Although a brief snack period was part of the regular schedule (2 3/4 hours), the rest period was eliminated.

The Astor Program favored the teacher-supervised lunch hour of the five-hour day, as it provided opportunities for curriculum activities not easily included in the shorter day. Lunchtime provided an occasion for socializing in normal patterns, for teaching the social graces and amenities, for the casual conversations between pupils and pupils and teachers that the more relaxed environment provided. Those teachers who had been involved in this aspect of the program felt it was one of the most profitable periods of the day, and later voluntarily gave up their free time in order to pursue the pattern.

The daily schedule was based on a pattern of twenty-minute modules, which served as a guide but did not need to be rigidly enforced. The day had to be planned very carefully, so that the skills of the teachers could be utilized and so that each pupil could receive an equitable share of attention in each curriculum area or activity provided.

Classes were usually divided into three of four groups of children. These groups could vary, so long as each child had an opportunity to be exposed to all activities. The basis for grouping was one of compatibility, pupil friendships, manageability of the various personalities involved. They were not grouped by ability in any curriculum area, in order to avoid any feelings of superiority or inferiority by members with respect to their capacities. The classroom activities were then rotated through the day, so that each group at one time or another was exposed to the activity being provided. During a forty-minute period (two twenty-minute modules), four groups might be involved in: basic mathematics skills, enjoyment of literature, foreign language, and independent activity. Three teachers would be active simultaneously in the room. If there were only two teachers

and no specialist, as in art, French, or music, the groups would be reduced to three. Other group activities might be of shorter duration, i.e. twenty minutes. This rotating schedule in the early years was a preliminary to the ultimate goal of more completely self-directed activities at the higher levels, with fewer formal group sessions.

Chart A is a copy of the general lesson plan utilized by the teachers, showing the general approach to various activities for a five-hour day. It is a basic philosophy of the program that children at this age level should not be forced to engage in any activity, but rather should be enticed by the nature of the teacher's presentation to want to participate. Thus, although the teacher might be giving a science demonstration, only those children who were interested needed to participate. Others could engage in other activities. The weekly lesson guide serves as an indicator of plans, but was very flexible, yielding to special interests or current enthusiasms as the need occurred.

Furnishing the Classrooms

Any program that is independently funded must make provision for classroom furnishings, beginning with desks, chairs, bookshelves, and continuing through chalk, paper, pencils, etc.

We had discussed this with the district offices and had agreed they they would furnish all the basic furniture, supplies, and equipment that would normally be provided to a kindergarten class in the school system. The grant would pay for all supplementary materials as required by the program.

In practice, this plan was only moderately successful at the beginning. As the school year began and the effects of tight budgets were being felt

ASTOR PROGRAM - DAILY SCHEDULE Chart A

Five-Hour Day: Level I Classes

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:50	Arrivals - Discussion - Conversation - Planning				
9:10	Basic Skills Science Art	Basic Skills Social Studies Cooking	Basic Skills Mathematics Art	Basic Skills Science Music	Basic Skills Social Studies Mathematics
9:40	Snack Time - Cleaning Up Music - Poetry - Conversation - Social Amenities				
10:00	Movement Education - Dancing - Games Physical Activities - Outdoor Play				
10:20	Same as 9:10 for Second Group of Children				
10:50	Same as 9:10 for Third Group of Children				
11:20	Language Arts - Storytelling - Current Events Special Projects - Individual Reading				
11:40	Singing - Preparation for Lunch				
11:50	Lunch with Teacher				
12:30	Rest Period - Quiet Activities				
12:50	Workshops: Special Projects Dramatics - Puppetry - Tape Recordings - Library New Centers of Interest - Newspaper - Reading Neighborhood Walks - Arts and Crafts Projects				
1:30	Continuation of 12:50 or Storytelling - Discussions - Clean up				
1:50	Dismissal				

Time schedules are modified modules of twenty or thirty minutes, which include transition times from one activity to another.

our idealistic plans crumbled reluctantly but steadily. We had to plead for the basic supplies needed, mostly because they were generally not available and our classes were at the bottom of the priority lists. Our teachers are to be credited for their ingenuity, bargaining skills, and willingness to work at tasks outside the line of duty. For example. an old storeroom was found in one building that was heavy with dust and disorder. The teachers were told that they could help themselves to anything they could find useful. They tugged and cleaned and foraged, and came up with what they felt were veritable treasures of unused and unwanted supplies. They further went to local merchants who provided them with rug mats for the children to use on the cold linoleum floors, wood blocks and other merchandise. A parent donated an area rug for the class library and reading corner. With their willingness to compromise and improvise, and assisted by purchases made through our grant, the teachers managed to put together classrooms that were most attractive and creative. This we learned. There is a great gap between the "tentative" promises of spring and the fulfillment of an autumn opening. In midyear, which was when we started our very first classes, the gap becomes a chasm.

The grant provided each classroom with the following materials, considered by us as essential to carrying out our goals:

Language Arts

Memory games
Sentence-making games
Sign language games
Scrabble
Tape Recorders

*Library books: fiction, non-fiction
prose, poetry
broad reading range
Dictionaries: picture to adult level
Magazines - "Cricket", "Highlights", Special areas, i.e. "Natural History", "National Geographic World", "Junior Scholastic", etc.
Poetry anthologies
Letter blocks
Dolch Reading Puzzles
Large (20" x 30") experience charts
Reading Series: Open Court (Multi-Level)
Holt, Rinehart, and Winston - "Satellite" Books
Houghton Mifflin -"Discoveries"
Heath - "Explorations"

Science

Live animals
Live plants
Cornell 4-H Project - egg incubation
Science Kits
"Things of Science"
Models of body - human and animal
Prisms
Magnifying glasses
Magnets
Telegraph set
Slide preparation sets
Microscopes
M.A.P.S. Science Units of Study
Puzzles - life cycle, seasons, etc.
Convex, concave lenses
Seeds
Solar System
Magazines: "Natural History","Ranger Rick", "Science and Children", "National Geographic World"
MacDonald Series in Science
Pulley
Incline
Balance

*A list of books was provided for teacher selection.

Social Science

National Geographic materials
Picture series
Senesh program in economics
Junior Scholastic
Childcraft Encyclopedia
Holt, Rinehart - Databank -"Cultures"
Maps - map puzzles
Globes
Books on careers
Kits from museums - Albany, Smithsonian
SRA -"Our Working World"

Mathematics

Attribute blocks
Metric rulers
Graph paper
Tangram puzzles
Geoboards
Abacus
Scales
Unifix cubes
Cuisenaire rods
Chess and checker games
Balance, scales
Mathematics Series (Multi-Level)-Holt
Rulers

Other

Records (classic and others)
Recorders
Art media
Art prints
Phonograph
Listening centers
Primer typewriter
Cassette viewer
*Musical instruments - flute, recorders, tambourines, drums, triangle
Hardwood blocks of unusual shapes - arches, spheroids, ovals, etc.
Silver - Burdett "Music" series

Although we supplied the major items listed above, we tried to respond to special needs created by the dynamic curriculum the teachers developed from day-to-day in their classroom. All materials purchased for the program were linked to specific curriculum goals and objectives of the program.

*Level I classes had pianos.

When the districts took over funding of the program, ownership of materials was transferred to the schools for continued use with the classes.

Expansion of the Astor Program

The Astor Program grew from two classes in February, 1974 to 16 as of June, 1977. During 1977-78, there were 28 classes. As the pupils advance in grades, the number of classes increases.

As of June, 1978, the program was located in four boroughs of the city, in six school districts, and in ten schools. Two new districts were expected to inaugurate classes in September, 1978.

A summary of the classes and levels by year is given in Table 3-1.

Principals' Reactions (June, 1977)

As part of a questionnaire in which we asked for principals' reactions to having the Astor Program in their school, we presented a paragraph with alternative choices of response. (Appendix 4.) The participating principals responded as follows: (Numbers in parentheses refer to frequency of responses. Seven of the nine principals canvassed returned the questionnaire.)

> "I have enjoyed (7) having the Astor Program in my school. It has brought new directions and prestige (7) to the education of early childhood classes. It is likely to have a permanent (7) impact on the conduct of future early childhood classes.
>
> "Administration of the program has brought a few (4), many (1), or some (2) problems, and these have been resolved -'easily'(7) during the course of the program. It has not been in conflict (4), or interfered (1), or it has coincided (2) with my own policies and plans for educating the gifted in my school.
>
> "My relations with the central coordinator have been cordial (5) or most cooperative (2) and our meetings have been most productive (6) or somewhat productive (1) toward a cooperative effort in managing the program."

Table 3-1

PARTICIPANTS IN THE ASTOR PROGRAM
BY DISTRICT, SCHOOL, YEAR, AND LEVELS

(As of June, 1978)

District	School	Spring, 1974	1974-75	1975-76	1976-77	1977-78
2	116M	I	I			
	6M			I,II	I,II,III	II,III,IV
	124M				I	I(2),II(2),III
11	83X				I	I,II
15	230K				I	I,II
18	114K	I	I	I,II	II,III	I,III,IV
	208K				I	I,II
	276K				I	I,II
26	221Q			I(2)	I(2),II	I(2),II,III
27	124Q			I(2)	I(2),II	I(2),II,III
	183Q					I
Total Number of Classes		2	2	8	16	28

Administrators had to be concerned with the impact of the program on the rest of the school. Following are some sample responses to questions we asked.

Question: What has been the impact of Astor Program classes on other classes in the school? With respect to curriculum practices?

"Some early indications are the use of health education materials, techniques, and music experiences have been encouraged. Materials shared with other teachers."

"We provided for continuing interaction between classes in a number of areas, such as Consumer Education, Movement Education, Dance Festival, music activities, special lunch programs, including song, dance, and improvised socio-drama."

"Nothing more than curiosity, at this point. The heavy emphasis on Chinese within the school has actually influenced the Astor curriculum."

"Not too much. The teachers get along well. They do discuss materials and many similar items are used . . . ."

"The Astor children have been getting along with the children from other classes. I hope that the impact on the curriculum will be even greater in September, because our teachers will have five preparation periods and will be able to discuss their ideas with colleagues more frequently."

"The teachers of the kindergarten, the Astor class and the CRMD classes have shared and planned cooperatively . . ."

Question: What has been the effect on the relationships between teachers of having Astor Program classes in the school?

"The teachers involved were able to provide their colleagues with a wealth of ideas regarding special activities for the gifted children."

"To date, all has been well. To some extent, the paraprofessional (a Chinese lady who speaks Chinese) gets the credit, since she is well known and liked by the whole staff."

"No effect. Rapport between teachers was strong prior to Astor classes and remains good."

"I haven't noticed any."

"No discernible change. Teacher was and is well liked, respected among colleagues."

"Improved. Much better this year than last."

"This program, I believe, has served to stimulate thinking about enrichment for all children."

Question: What has been the general impact on the school of having Astor Program classes?

"The impact has been a most positive one. Astor Program teachers have served as resource personnel at a variety of grade and faculty conferences. The children have formed important friendships with the 'mainstream' youngsters at our school. The unique learning tone established in the program has enhanced the existing superior learning climate at our school."

"The entire adult population is looking on and has looked with some suspicion at the Astor classes. They do not know what to expect. Preparation done thus far with staff and neighborhood parents has permitted some degree of guarded welcome to the Astor parents."

"We now think in terms of gifted. The impact has not been great. In this school, many of our teachers have realized that programs for the gifted are needed."

"There has been greater parent involvement. When other classes are involved in grade programs they seem to be stimulated by our Astor children."

"Morale lifting."

Question: How do you feel about continuing Astor Program classes, following the same practices, in your school?

"It is not possible to staff as Astor did, desirable as it is, for all classes. With that single exception, I favor - Astor type classes."

"Since experience has been excellent, programatically, I am in favor of continuing past practices."

"Favorably!"

"It is our hope to continue the Astor Program under a format similar to its present organization with the approval of our Community School Board."

"Very strongly desire this to be continued."

"Too bad we came in the third year!"

"Positively!"

Question: How do you view your role in the continuation of classes following Astor Program practices?

"I strongly believe that without my support, these practices and the entire program cannot succeed. I must take the lead and show all that I am committed."

"Educational leader of the school. Disseminating information, providing support, working with parents and facilitating instruction."

"I have been actively involved and will continue to be. I shall directly supervise these groups. I believe that I have established a fine working relationship with the teachers and this will continue."

"It is our hope to persuade members of our Community School Board to provide supportive funding for the continuation of this program."

"By checking the plans of the Astor teachers, spending time in their rooms and discussing their programs with them I can inform other teachers about their practices, and encourage them to use some of them in their classes."

"Critical with respect to selection of teacher and educational assistant and guidance in selection and ordering of material important in terms of general supervision. I cannot replace, as one individual, the teacher training sessions and cooperative sharing."

"As facilitator of ideas and practices."

Organizationally, all principals favor full-time homogeneous grouping for the gifted. They feel, generally but not unanimously, that Astor Program children would not have done equally well in heterogeneous, regular classes. One felt that much depended on the teacher. All, however, were eager to continue the classes and viewed their roles as mediators between school and community. Generally, they thought that they had an important role to play in continuing Astor Program practices.

Superintendents' Reactions

District Superintendents were favorably disposed to the program and their enthusiasm grew with experience. They invited legislators (State Senators and Assemblymen), Regents, State Education Department representatives to visit the classes in their districts. If they had any doubts at first, after three and one half years, they were all ardent supporters of the program. They added classes and schools; they persuaded their local school boards to commit tax levy funds; they assigned members of their staffs to act as local coordinators. Their reactions may be summarized in these excerpts from letters they wrote to the project director.

> "The impact of the program on the community, the school, other classes and curriculum practices - all have been most positive and extremely beneficial to our district. Parent involvement has been most supportive, pupil selection has been effective and in-service training has been arranged for the new school year.
>
> "We are hopeful that budgetary allocations will permit us to continue and to develop this outstanding program."

> "First, may I say that it (the Astor Program) has given a positive note to education for the gifted throughout the district. Something to point to rather than something to point at.

> "The value for the children has been enormous. Some of these kindergarten age children would not have been identified by teachers since they are not 'readers' or necessarily 'school bright'. For the district it has been an indication to parents that individualization exists.

> "The selection of pupils has been well done. There is a need for follow up for pupil adjustment for 'selecting out'. The selection of the teacher for this year is no problem. Possibly, if the program expands, there might be difficulty in finding qualified teachers for this most sensitive program.

> "Once again, thank you for giving a feeling of richness to our district program. Let us hope that the coming years will allow us to develop a full program for the gifted child. We are committed to the philosophy of the Astor Program. "

"Within the past year we have:

Organized a District Committee for Education of the Gifted.

Appointed a screening committee to select intellectually gifted students for the program.

Drafted a District Plan for the Education of the Gifted.

Organized a resource center of materials on the Education of the Gifted.

Commenced to reevaluate all gifted programs within the Community School District.

Assisted in organizing a parents' group for those whose children attend the Astor classes.

"The value of these classes has been clearly demonstrated during my many visits to the school. Parental reaction to a questionnaire evaluating a mini-grant project for the Astor classes confirms the positive reactions of parents and students to the program."

"In three years, one class grew to seven, 24 children to 160 (We plan to add three new classes in the fall of 1977).

"The contribution of our District in terms of tax levy funds grew from a few per cent of the budget to about 75%. This largely due to the training you arranged through the Leadership Training Institutes.

"Besides the Astor classes we started together, several of our elementary schools have formed curriculum committees for improving classroom strategies for responding to the needs of gifted children. A district committee on the Gifted, in-service courses, the creation of a district resource center for the gifted . . . all resulted from your influence . . . and benefit all our children.

"As for the value of the classes . . . to the children, they have an almost immeasurable value. Our staff is confident that the children are functioning effectively and performing up to all expectations.

"The value of the program to the community was in making the public sensitive to the need for making provisions for gifted children. People have moved to our area to be closer to the classes. Our residents have not joined the flight from our borough or (as an alternative) sent their children to private school because the Astor classes were available. Because our school board recognized this, budget provisions could be made for classes to grow.

"The regular classes in the schools housing the Astor classes will begin sharing the curriculum guides the project teachers developed. . . . There will be greater opportunities for cross-fertilization next year now that four levels are in being. We anticipate a favorable impact. In essence, we think we know now that a great deal more may take place in the instructional day than we thought possible.

"Relations with the central office have been excellent. . . .

"Parent involvement is a major area of concern. We plan to create a steering committee to capture and channel the very great energy and positive involvement of these unusually articulate, informed parents. Your original pattern of frequent meetings and dialogue is most desirable.

"Pupil selection will continue to be done in our office using your methods and standards.

"In summary, we plan to continue to do well with the healthy, thriving seedlings that you are turning over to us."

The foregoing comments by principals and superintendents highlight the major areas of concern in planning and administering an innovative program. We have attempted here to share the many problems and issues that must be faced and resolved. One cannot foresee each contingency, but one must be prepared to modify and adapt as the program progresses. Building strategies for change into the initial planning is an important consideration if one wishes to insure the maximum opportunities for successful institutionalization of the program. It is our belief that the flexibility of our approach was a major factor in the eventual success of the program.

THE SHATTERED DREAMS OF A GIFTED CHILD

He always wanted to explain things,
But no one cared.
Sometimes he would draw and it wasn't anything,
He wanted to carve it in stone and write it
in the sky.
He would lie out on the grass and look up at the sky.
And it would be only the sky and him,
And the things inside him that needed saying.
And it was after that he drew the picture.
It was a beautiful picture.
He kept it under his pillow and would let no
one see it.
And he would look at it every night and think
about it.

And when it was dark, and his eyes were
closed, he could still see it.
It was all of him.
And he loved it.

When he started school he brought it with him.
Not to show anyone, but just to have it
With him like a friend.
It was funny about school,
He sat at a square brown desk
Like all the other square brown desks,
And he thought it should be red.
And his room was a square, brown room
Like all the other rooms.

He hated to hold the pencil and chalk,
With his arm still and his feet flat on
the floor,
Stiff,
With the teacher watching and watching.

The teacher came and spoke to him.
She told him to wear a tie like all the
other boys.
He said he didn't like them.
And she said it didn't matter!
After that he drew all yellow and it was the
way he felt about the morning.
And it was beautiful
The teacher came and smiled at him.
"What's this?" she said. "Why don't
you draw something like Ken's drawing?
Isn't that beautiful!"

After that his mother bought him a tie
And he always drew airplanes and rocket ships
like everyone else.
And he threw away the old picture
And when he lay out alone looking at the sky,
it was big and blue and all of everything.
But he wasn't anymore.

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He was square inside.
And brown.
And his hands were stiff,
And he was like everyone else.
And the things inside him that needed saying
didn't need it anymore.
It had stopped pushing
It was crushed.
Stiff.
Like everyone else.

The poem was written by a high school senior and given to his teacher. The teacher was surprised. It is not known today if the poem is actually the young man's work. He committed suicide.

Illustration by Richard L. Strahan

4 THE TEACHERS

The crux of any educational program is the teaching staff. No matter how well planned a program is or how fine its goals, there can be no successful realization of one's hopes and dreams without the teachers who must implement them.

Hopes, plans, dreams, aspirations become frail soldiers in the real world of bureaucratic procedures, union contracts, and administrative pressures. Anyone who plans to introduce an innovation to unsettle the status quo, must be prepared to hold fast to his hopes with one hand while wielding a mighty defense shield with the other. Often the innovation pales before the ingenious maneuvers one must exercise in circumventing rules and regulations, without actually violating any sacred scripture.

Selecting the Teachers

Selecting teachers for a program is not simply a matter of establishing criteria, but also one of dealing with whatever political, technical, or other procedures exist within the educational system at hand.

There was no question about the high standards we were setting for teacher selection for the Astor Program. The problem was how to achieve our purpose within a realistic framework of current Board policies. We were particularly anxious about this aspect of the selection process, since we were trying to demonstrate that the Astor Program could eventually be handled under tax levy monies, without private funding. We, therefore, observed rule number one in such matters. Know the administrative procedures governing teacher selection within the system, and let that be a guide.

Thus, we established our first criterion for selection: all teachers must hold licenses satisfactory to the Board of Education of the city. Second, we tried to use teachers who held regular appointments, insofar as this was possible. We did deviate from this criterion when we discovered that regularly appointed teachers were hesitant about leaving a secure spot in a school for one that could easily vanish with the termination of private funding. We read regulations carefully for all the possible exceptions implied and exploited these to make the selections we felt were best for the program.

What were we looking for in our teachers? The best, of course, by criteria such as the following:

1. A sympathetic understanding and feeling for gifted children.
2. An understanding of the needs and psychology of young gifted children.
3. Experience with early childhood classes, nursery schools, very young children (their own, especially).
4. Intellectual superiority.
5. A broad range of interests and skills.
6. Educational background reflecting a variety of interests and at least one field of specialization other than education per se.
7. A willingness to undertake the many allied assignments required in this pioneer effort.
8. A dynamic, alert personality.
9. A sense of humor (not sarcasm).
10. Flexibility. Readiness to learn, revise, change.
11. A creative, perhaps unconventional, personal philosophy.
12. Good health and vitality.
13. Graduate course work in education of the gifted and a readiness to continue such education.

These criteria, in essence, reflect the thinking of many who have been engaged in work with the gifted. (4, 5, 10, 17) Many characteristics, it will be noted, do not lend themselves to "teacher-training," yet they are considered essential qualities in a good teacher of the gifted. Furthermore, we must bear in mind that one can only hope for individuals who possess a reasonable sample of the traits listed, and not expect to find a paragon of favorable virtues. The personal interview, conducted with intent to elicit information on the dimensions listed, is extremely important in identifying those teachers who have a favorable combination of traits, or even more important, those seriously lacking in a characteristic we would deem essential for successful handling of a group of gifted children.

We asked the teachers themselves the following question:*"Please list the characteristics you think a teacher of the exceptionally gifted should have, in order of importance, as you see it." One is tempted to give their complete responses, as they are capsule descriptions of the teachers themselves. As a matter of fact, we were curious about this self-projection, and asked staff members to match the teachers with the terms. The consistency was quite remarkable. The list, of course, essentially duplicates those we have already cited as appropriate. The most common characteristics given were:

Commitment to children - love of children
Warmth, empathy
Sensitivity
Flexibility
Sense of humor
Enthusiasm
Open-mindedness
Personal security
Energy
Intellectual curiosity

*Appendix 5.

Teachers were selected also on the basis of the organizational design of the program. It was expected that there would be two teachers in each classroom and that itinerant teacher specialists would also be involved. Our concern with the use of teacher specialists in specific content areas was based on a study conducted with older gifted children, grades four to six, where significant gains were obtained in achievement, attitudes, interests, and self-concept (7)in a coordinated teaching plan.

Therefore, the selection process considered carefully the balancing of teacher skills within the classroom as well as in the total staff available. For example, in one class, skills were balanced by combining a teacher having a strong mathematics and science background and a Master's degree in early childhood education with one who had a strong language arts background and a broader experience in teaching elementary school grades. In a second class, a teacher with major work in mathematics and experience with gifted children at several grade levels was combined with an early childhood teacher with many years of experience and with a strong background in the natural sciences, plus the ability to play the piano and guitar.

Early in the program when we were able to use itinerant teacher specialists, we had an artist, a musician, and a French linguist. Later when we had to rely on our basic teacher corps for our increasing numbers of classes, we obtained a balance of skills by having all teachers within one school working as a team, where each contributed his/her specialist skills for all the classes.

With these goals in mind, it was essential that we review the skills, education, hobbies, and special interests of each teacher, before making our selections and assignments. During the years of private funding, the

following major subject specializations, skills, and talents were to be found among the credentials of our teachers.

Majors or minors in English, literature, economics, sociology, and anthropology, physics and mathematics, music, art, French, merchandising, guidance and counseling, social studies, communications, speech and speech therapy, psychology and philosophy . . . . They also reported having professional training in fine arts, such as music, dance and art. Many played musical instruments, especially the piano and guitar. Among their hobbies they included geology, art, music (opera), ecology, writing and travel. One teacher had a doctorate, a second was completing hers. All had baccalaureates plus graduate work, and about eighty-five per cent had master's degrees. Program planning put their knowledge and all their skills and talents to use for the benefit of the children.

When we asked them what they felt the educational background of a teacher of exceptionally gifted children should be, they stressed the following:

- Graduate work in teaching of the gifted
- Broad educational, academic, and cultural background
- Training in age level being taught

The following responses were typical:

"A B.A. and an M.A. which includes a broad range of courses, such as education courses appropriate to the age level being taught. Courses in teaching of the gifted. Methods courses in subject areas. A special area in which he or she excels and is interested in, such as music, science, dramatics, for which he has received some formal training. Self-developed areas of interest, such as traveling, music appreciation. Well read in a variety of subjects."

"A sensitivity and love for human beings. Caring. You cannot learn this, you must feel this. One degree other than education, preferably mathematics or science. Training, expertise and talent in at least one area of the arts. A variety of interests and abilities to share for which some training (formal or otherwise) is required."

"An excitement for learning new things, new concepts, shaking the dust out of the old, the ability to question, to reject for something new that may be better, to have chills of delight over learning a new word, or a new stellar concept. The joy of participating in nature, to touch, hold, see, hear, learn, scramble, relearn, share with others, throw it away and let it bounce back to work on it. Loving the growing green of summer storms and sharing of electrons. Fascination for mankind and his ability and brilliance to have discovered (invented) mathematics . . . ."

Although there was some overlapping of responses, on a second question concerning the prior experience such a teacher required, they all said teaching experience was essential. Many stressed the need for experience with children in several grade levels, experience with classes for the gifted, and knowledge of special teaching techniques, such as "individualized instruction" or "open classrooms."

Teacher Training

Even the best and most willing teachers are not automatically qualified to work with gifted children. Education of the gifted is as specialized a field as any of those usually listed in "special" education. Many who are assigned to teach classes for the gifted operate from an uninformed base, bringing their personal biases and misconceptions to the process, often compounding the insult and injury to the gifted mind. How else can we explain research results that tell us that ability grouping, per se, does not produce significant differences in achievement? (13,14) If nothing else happens after the children are grouped, if teacher attitudes, curriculum designs remain unchanged, the grouping serves little purpose.

The Astor Program built teacher training time into the plan, both at the beginning and throughout the school year. At the beginning of the program, the teachers met for a period of ten full days for training and curriculum planning, followed by full day monthly training sessions during the school year. As the program progressed, the pre-school sessions were reduced to three full days, but the monthly sessions were retained throughout. These were held during the regular school day, and pupils were excused from school for the sessions.

Most of the teaching and training at these sessions were conductd by the director. However, specialists were invited to discuss topics of concern. Among these were specialists in early childhood education, science, mathematics, foreign language, philosophy and ethics, and curriculum. Provisions were also made for teachers to attend program-sponsored conferences at which specialists in the field of the gifted reviewed a wide variety of topics. (See Chapter 2.)

In-service training sessions covered a broad range of topics in psychology and education of the gifted, child development, theoretical backgrounds of testing, classroom management, administration, curriculum, parent involvement, and general awareness. Some of the specific topics covered were:

Psychology and Education of the Gifted

1. Characteristics of the gifted.
2. Identification - uses of multiple criteria.
3. Needs of the gifted - intellectual, psychological, social, emotional.
4. Meeting the needs of pupils with special problems.
5. Styles of learning of the gifted.
6. Parents' roles.

Child Development

1. Overview of early childhood development - physiological considerations.
2. Physical development in relation to acquiring skills in reading, handwriting, listening, self-control.
3. Equipment needed to promote development of coordination and motor skills.
4. Movement education, play, outdoor exercises in promoting body development.*

Theoretical Backgrounds

1. Nature of intelligence - Structure of the Intellect - Spearman's "g" factor
2. Techniques of pupil identification.
3. Interpreting test results.
4. Grading.

Classroom Management

1. Role of specialist teachers in a coordinated teaching plan.
2. Writing lesson plans using language of the thinking skills.
3. Grouping for instruction.
4. Classroom lay-out.
5. Uses of time - efficiency in transitions.
6. Classroom discipline - pupil behavior and teacher expectation.
7. Pupil privacy.
8. Daydreaming (an accepted behavior, within reasonable limits).

*In a city such as New York, a conscious effort must be made in many locations to provide outdoor recreation, especially since there is little playground space near many schools.

Administrative Considerations*

1. Organizational structure of the Astor Program.
2. Relations with local school principal and staff.
3. Relations with local school district supervisory personnel.
4. Relations with local PTA.
5. Pupil report cards, records, and promotions.
6. Provisions for teacher exchange of information.
7. Participation in local school activities by teachers and pupils.

Curriculum

1. Philosophy of the Astor Program.
2. The "differentiated" curriculum - the goal-oriented curriculum.
3. Teaching special curriculum areas: mathematics, art, science, music, foreign language, communication arts (including reading), literature, social living.
4. Teaching areas of special concern: philosophy and values, risk-taking, observing the Bicentennial, meaning of social and civic responsibility, career education.
5. Planning trips - their purposes and links to the curriculum.
6. The role of practice, drill, and rote learning, especially in their relations to handwriting, spelling, phonics in reading, arithmetic computation.
7. Affective education - discussions of emotions; unusual events, i.e. death, hospitalization; uses of the fairy tale (based on Bettelheim's (2) observations); development of self-concept; values clarification; sensitivity training, expression of emotions.
8. Applications of thinking skills in the total learning experience - analysis of the taxonomy of educational objectives.

*It should be remembered that Astor Program teachers worked under the direct supervision of the Director, who was at the Central Board Headquarters. Local schools are under decentralized community school districts, which are autonomous.

9. Developing the body senses.

10. Role of homework - nature, length, advantages, disadvantages, parent involvement and pressure.

11. Vocabulary growth - uses of the experience chart - oral reading.

12. Classroom discussions - development of conversation skills.

Parent Involvement

1. Sharing plans and goals of the program with the parents.

2. Parent teacher meetings to discuss pupil progress, special problems.

3. Tapping parent skills and experiences for enriching the curriculum.

4. Using parents (and community personnel) to teach career education.

5. Obtaining parent support for program continuation and improvement at community level and in the legislative process.

General Awareness

1. Review of current legislation at local, state, and federal levels.

2. Reports on conferences relevant to the gifted.

3. Review of current literature in the professional journals relevant to topics of concern.

4. Teacher participation in conferences and in giving demonstrations.

5. Teacher exchange sessions to share experiences and techniques.

6. Resource materials.

An essential aspect of the teacher-training sessions was the period during which teachers met to exchange ideas and discuss topics of mutual

concern. Since they came from various parts of the city, had such diverse training and experience, they reported that these were invaluable opportunities from which they gained a great deal.

At the end of each school year, teachers were asked to react to the program. All but one reported that, given a choice, they would like to continue working in the Astor Program. The exception was a new teacher who said: "I prefer the efforts of the underachiever and especially the (slightly) above average achiever because they do not put as much pressure on themselves . . . ." Some of the teachers' comments follow: (Appendix 5.)

> "Teaching intellectually gifted children gave me the opportunity to use many ideas, create many new experiences and not only fulfill the childrens' needs but also satisfy my own feelings for creative fulfillment."
>
> "In a sense, each day was unpredictable and required that I constantly keep alert and attuned to the many vibrations which might lead us down new paths."
>
> "This has been the most rewarding experience of my teaching career."
>
> "I enjoyed the challenge and found the children's interests exciting. I have never worked harder but the experience broadened my horizons."
>
> "These have been some of the most enjoyable years of teaching and learning. The children are warm and loving; the parents are involved, warm and thankful because their children are learning and happy."
>
> "I especially liked the freedom to pursue any topic that interested me and the students. I liked the de-emphasis on specific pedagogical methods in favor of emphasis on goals, ideas and philosophy."
>
> "Although this year has been the most time consuming (my own time), it has also been the most rewarding in terms of personal growth and new learnings, challenges, and fun with the children."
>
> "I have felt, after 16 years of public school teaching, this to be the most rewarding opportunity. Education was the goal, the only aim, and a joy to experience."

Teacher reactions to the training sessions were generally favorable (85%). One was undecided. Many would have liked more guest speakers,

more workshops with hands-on experiences, more opportunities to discuss their problems and exchange ideas. A teacher's hunger for hands-on activities is almost unquenchable, and finances did not make possible the involvement of many experienced "consultants."

It is of interest that the teachers themselves created many activities and resolved many problems for which there were few guidelines when we began our work in early childhood education for the gifted. To some extent their cry for more materials reflected the state of the art at the time. There just weren't any, and it was only in more recent years that any activities were produced for this level.

RECOMMENDATIONS

1. Do not assume that exposure to particular procedures or methodologies will automatically insure transfer into practice. There is a long step between a teacher's knowledge of appropriate procedures and actual implementation in a classroom.

2. Teacher training, continuous and ever-renewing, is an absolute necessity if a program's goals are to be properly implemented.

3. Teacher training should precede program implementation for only a portion of the training time. It is only as teachers work in the classroom and become involved with the children that they begin to grasp the significance of the training. Training, concurrent with active classroom teaching, is most effective.

4. Teachers of long experience in regular classrooms are not necessarily better qualified to teach the gifted and talented than new teachers. They are frequently fixed in habits and have long forgotten their "theoretical" training.

5. Be receptive to teachers who are "different", "creative", not too yielding to authority, non-conformist.

6. A course on education of the gifted does not qualify one to teach such children. It merely means that the teacher has been exposed to the ideas, which may or may not have been internalized for use in practice.

7. Teacher training must cover all aspects of program implementation: parent relations, classroom management, administration, psychology of the gifted, theoretical backgrounds, child development.

8. Involve other teachers besides those who are teaching the gifted in orientation sessions.

9. Establish knowledge links between the pull-out teacher and the classroom teacher.

10. The school principal should be fully cognizant of the program's goals and procedures, so that he/she can support classroom activities rather than negate them. A non-supportive administration can undermine and destroy an otherwise valuable program.

11. Provide frequent opportunities for teacher exchanges of experiences - within the school, from school-to-school, and with other professionals.

12. Encourage attendance at conferences of professional organizations concerned with gifted and talented.

13. Teachers must be intellectually gifted.

14. Teachers must be expert in at least one curriculum area, e.g. mathematics, art, history, etc.

15. Select teachers by personal interview, examination of credentials, classroom observation.

16. Some characteristics that are useful: off-beat, independent, courage to stand alone BUT diplomatic, capacity to deal with parents.

"WHEW! THAT TEACHER'S TRYIN' TO WEAR OUT OUR BRAINS BEFORE WE EVEN GET TO FIRST GRADE!"

Reproduced, courtesy of Hank Ketcham

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5 THE PUPILS

One of the most critical issues in education of the gifted is identification. "Who is a gifted child?" "How do we recognize him?" Both are questions that plague educators and legislators, theorists and pragmatists.

Circumstances pre-defined the gifted child for the Astor Program, and very nearly predetermined the identification procedures to be used. For several years, I had kept records of the inquiries I had received from parents, teachers, principals, psychologists, pediatricians, guidance counselors, psychiatrists, day care center and nursery school directors, and many others, all of them focusing on the pre-kindergarten or kindergarten child who displayed evidence of outstanding intellectual superiority. I had noted not only the child's age and sex, but also the "evidence" presented on his/her behalf to indicate giftedness. There was no doubt in my mind what kind of child we wanted to serve. I had, in fact, been collecting a description of his traits from his "nominators" for years.

Target Population of the Astor Program

The Astor Program planned to meet the needs of a child whose intellectual giftedness was observable and demonstrable. These were the children whose giftedness was so apparent that people were moved to seek out a special education for him. Giftedness which was not evidenced by observable behavior, usually referred to as "potential" giftedness, was not considered; nor were the talents, usually noted in the visual and performing arts, the focus of our attention. Our sole concern was with that child whose intellectual behavior was so outstanding that there could be little doubt of his performance level.

With a pupil population as large as is available in New York City, there was no question but that two classes of no more than thirty pupils each could easily be formed. Later experience showed us that there were many more pupils in this category than we could possibly accommodate.

Recruitment Procedures

Probably the most frequent question that is asked of the Astor Program is: How were the pupils selected? The Astor Program gave very careful thought to this initial step and tried to establish a procedure that would be most efficient in the light of current attitudes on the subject and in terms of sound research data.

Several questions, essential to the inauguration of any selection process for an educational program, were considered. These were:

1. What are the purposes of the program?
2. What is the nature of the target population?
3. How large is the available pupil population?
4. How many pupils will be served by the program?
5. What are community restrictions on comtemplated procedures?
6. What are education board policies in the affected area?
7. What are the cultural patterns of the communities involved?
8. What aspects of equality of opportunity apply?
9. What evidence is there for the reliability, validity, and acceptability of the identification techniques to be used?

The broad goals and purposes had been clearly established at the start of the program. The target population had also been defined. Briefly, this was to be an academic program for very superior, intellectually gifted children, the top one per cent of the pupil population. Although there was no in-

tent to ignore talents that might emerge or other aspects of the learning process, the specific goal of the program was clearly intellectual and academic. These interrelated aspects, matching pupils and program, dictated the major aspects of the identification procedures.

Planning requires a certain foreknowledge of the available students and the total number to be served by the program. A restrictive definition of the pupil population, such as the top one per cent, limits the field of possible candidates. One needs to know approximately how many children there are in the community of the age range required, as well as the likelihood of reaching a substantial number. Census data, provided by school systems and the United States Government, are most useful for obtaining such estimates. In the Astor Program during the first year, where we had only 60 possible places in the two boroughs then involved (Manhattan and the Bronx), there was no problem at all in filling the classes. Later, as the program expanded into other boroughs and school districts of the city, we found that there still were adequate numbers to fill our classes. However, as the program spreads through the city, it may be necessary and desirable to expand the definition so that perhaps the top two per cent may be included.

Further restraints on selection procedures are community attitudes and education board policies. There are communities where the use of an I.Q. test will not be accepted. Board of Education policies sometimes reflect these feelings. Some schools resent having their brightest children diverted to other areas. There are large numbers of people who resent the notion of a class for the gifted altogether. There are questions of ethnic balances, sexual equality, equality of opportunity for all possible

children. In fact, the introduction of a special program, particularly one for the gifted which offers so many benefits, requires a thorough knowledge of the school system and community involved. Selection procedures must reflect these factors, also.

Still another and very important consideration is an awareness of cultural patterns. For example, we found that the Chinese children were very modest, holding back information lest they seem boastful. We had discussions with members of the community to help us understand the children's responses. Many cultures are non-competitive and many are somewhat indifferent to time. An awareness of these patterns helps in interpreting responses to tests or in making the initial selection. There are groups that are reluctant to have their children move far from home. Others do not recognize the giftedness of their children nor the importance of encouraging such giftedness, especially in girls. Generally, there is a tendency for parents to wait until the later school years before becoming concerned with the "serious" education of their children. In a city as large and diverse as New York, one must be prepared to interpret and adapt to reactions and to plan procedures accordingly.

These comments will perhaps be clearer if we cite a few examples. Several very bright Puerto Rican girls were brought to our attention. Their parents refused to let them attend a school away from the home neighborhood. We found that many Chinese parents were equally reluctant to send their small children out of the neighborhood. We had difficulty tracking down girls in the Puerto Rican population, yet we knew they must be there. Many parents of all ethnic groups feared that they might be "pushing" their children too soon.

In the face of these many forces that influence procedures for selection, we also had a deep concern for presenting equality of opportunity to all groups. Although this was not required under the grant, privately funded and limited as a research activity, we were anxious to set patterns that could be precedents for later screening through the public school system. In this, our approaches to publicity for the program are significant. (See Chapter 2.)

Ultimately, yet most important, we had to be concerned with the technical aspects of our screening procedures. We needed to review the literature on identification and to know the basic psychometric evidence required of all objective data, such as reliability and validity in their various forms.

Attending to these precautions proved to be most worthwhile. We were rarely challenged for our methods and, on the few occasions when questions did arise, our decisions held. The program became known for the integrity of its selection procedures. The important benefit was to the pupils, who knew their presence in the program was a personal achievement. Their parents' pride in their children's membership in the program reflected a satisfaction with the methods of selection.

There was only one serious heartache attached to all of this, the need to notify parents that we could not admit their very capable children only for lack of space. Most took it with good grace. A few felt it was unjust that there was not enough room for all. We agree! Every gifted child should have his needs met.

The details of our selection procedures are developed in the following sections.

PUPIL SELECTION

When we began the selection process, notices concerning the program were distributed via the local press, including foreign language papers in Spanish and Chinese, radio stations, schools, both public and private, and, of course, by word of mouth. Children were brought to the attention of the program by parents, teachers, relatives, guidance counselors, friends, principals, nursery and day care centers, and many others. It is interesting that a gifted child arouses the concern of those who know him and these persons do try to find ways of obtaining the best opportunities for him. For example, four sources, each independent of the other, called me with reference to one child. At age three and one-half, this Black boy could read at about fifth grade level and showed many of the reasoning skills associated with much older children. His Stanford-Binet I.Q. was 157.

The selection process included several steps. Regardless of the source referring the child, the first requirement was that the parent make the actual application. The application (Appendix 6) contained requests for information concerning evidence of the child's giftedness and the parents' observations that led them to believe their child was gifted. Receipt of the application was followed by a telephone screening interview, during which the parents were told about the program and their involvement in bringing the child to school and paying all transportation costs. Those on welfare were given assistance, if needed. The telephone screening interview discussed with the parent relevant biographical data about the child that could be used as evidence that an extensive psychological testing would be justified. Since our funds were limited, we had to try to reduce the number of children to be tested by our psychologists.

The screening team, having personal experience with gifted children, was guided by a list of characteristics usually associated with early learners, and frequently mentioned by parents in describing their children.

Among these were:

a. Ability to read - beyond identification of isolated words

b. Early signs of developmental maturity, ie, walking, talking

c. Alertness, curiosity

d. Extensive vocabulary

e. Good comprehension

f. Unusual memory

g. Good spatial relations, i.e, puzzles, direction

h. Comparison with other children, siblings

i. Choice of playmates (frequently older)

j. Observations of friends, doctors, nursery school teachers, and others.

During the first year, when we were able to conduct extensive telephone interviews, we were impressed with our results. We were able to identify exceptionally gifted children in a ratio of about two out of three, as confirmed by later testing.

The psychological testing included administration of a Stanford-Binet, a reading test (WRAT), and a figure drawing test (Goodenough). If deemed necessary by the psychologist, additional testing might be included, such as a Leiter or Raven's Progressive Matrices, as performance tests. Occasionally, these were used to supplement our judgment concerning a child of unusual cultural background or whose performance on the Stanford-Binet was not consistent with our observations. A brief interview with the parent and child

followed the testing. The director then reviewed all the relevant information, including recommendations and a confidential report * prepared by the parents on the child's health and general status within the family. Decisions on eligibility rested with the director. These were made on the basis of several criteria, taken as a composite.

Criteria for Selecting Astor Program Children

Criteria for selecting Astor Program children were flexible and multiple. Many factors had to be considered in making final selections. Some of these were related not to identification per se but to administrative considerations required by the nature of the program. The most important of these are listed below, but not in order of importance.

1. Residence. By borough, school district, local school. All children had to live within the borough. A certain proportion of places were reserved for children residing in the "host" district and for those attending the "host" school.
2. Age. Usually between 4 years and five years seven months as of September first of the school year.
3. Sex. An attempt was made to have both sexes represented on approximately equal bases.
4. Recommendations by professional persons, e.g. teachers, psychologists, principals, case workers, nursery school directors, pediatricians, etc.
5. Telephone and personal interviews with parents and child.
6. Emotional and social maturity of the child.
7. Readiness for school experience, cognitive and affective.
8. Intellectual ability as evidenced in biographical data.
9. Intellectual ability as evidenced by individual psychological examination.
10. Pupil products and performances, e.g., reading, drawing, etc.

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*Appendix 7.

11. Parent nomination, based on screening interview.

12. Previous school history of child, if any.

13. Date of application.

14. Where no local bus service was available, the ability of parents to arrange transportation for the child was considered. Funds were given to those on welfare or receiving public assistance to meet this cost.

Since there were very few openings and funds were limited, only those children were called in for psychological testing for whom supporting data justified this step. Parents could submit results of psychological testing by accredited testing agencies or certified psychologists. Data on a full-scale Stanford-Binet, with the examiner's report, were required. Parents were informed that they could authorize agencies or psychologists to send this information directly to us.

When we were satisfied that a child was eligible on most counts, his name was included in a pool of eligibles. Then all were rank-ordered according to I.Q., and usually those with the highest scores were accepted. Since our places were limited in number and the program was privately funded, even though administered through the public school system, it was possible to use these procedures in the interest of saving time and money. We found that our classes were soon filled by children with I.Q.'s of over 140. The scores ranged right through the top of the Stanford-Binet.

Observations on the Use of the Stanford-Binet

I should like to comment here on our reasons for using the Stanford-Binet. This test has excellent credentials of reliability and validity. It has long been established that it is a very good and consistent predictor of academic achievement. It was standardized on a population that included age ranges as

low as one and one-half years, so that scores obtained from the test are based on actual pupil behaviors for the ages we were trying to reach.

With respect to minority populations who sometimes question the use of the Stanford-Binet, a review of the literature had revealed that the Stanford-Binet does a better job of identifying intellectual giftedness for such populations than other tests. The results, we believe, justify our decision. Several of the Astor Program children with I.Q.'s over 160 are minority children of somewhat low income background. Several have serious home problems including crime, physical abuse, gross negligence, a single or no parent. In some instances, they were brought to us as behavior problems, which we were able to identify as unrecognized and thwarted giftedness.

We did start a class in one district where the Stanford-Binet was not used as an entrance criterion. The results of using that procedure are discussed in the following section.

Alternative Pupil Selection Procedure

It had been our original intention to start an Astor Program class in each of the City's five boroughs. We could not overcome the resistance of the superintendent in one borough, and later administrative changes created the type of uncertainty when few innovations are likely to occur. Funds we reserved for this district were serving no useful purpose. We, therefore, were quite receptive when a second district in Queens requested inclusion in our program.

This district was geographically isolated from other Astor programs. The City covers 625 square miles, and distances can be quite forbidding for pupil travel. It was unlikely that any of their children could take

part in any other Astor Program class, partly due to their isolation, partly due to the low socio-economic levels of many families, and partly because of minority opposition to I.Q. testing. The district had the commitment and willingness to invest some of its monies to the program and was eager to be involved.

Since there was so much discussion in the research and educational community about developing alternative means of identification for the gifted of minority populations, we thought this would be an excellent opportunity to check on our own procedures. We, therefore, agreed to a change in criteria for this district, with the condition that we would be permitted to administer the Stanford-Binet after the pupils had been admitted to the program.

The district was involved in screening its total kindergarten population for language disabled pupils. During their testing, they found that many youngsters did very well on the scale and showed promise of intellectual superiority. They decided, therefore, that this might be a good first step in identifying children at the kindergarten level. They requested exemption from involving pre-kindergarten children, since the task of reaching their pre-school population would have been beyond their available personnel time.

In addition to the scale for language facility, the children were given a reading readiness test. Teacher nominations, with the aid of a checklist, and parent recommendations were sought. The district coordinator observed pupils in their classrooms and interviewed both parents and children. Combining these various criteria, the coordinator made selections for the central class for the district.

Parents of the children, reassured that the decision for admission had already been made, agreed to have their children tested by our psychologists with a Stanford-Binet. As can be seen from the data presented in Table 5-1, the screening process did identify a number, 18, of exceptionally bright children. It also included several whose ability levels according to their Stanford-Binet scores would not have qualified them for the Astor Program. There were 37 of these children. We observed the classes and these children in particular to determine how successful this alternative screening method had been.

We were concerned about several questions. How well did this alternative screening compare with the usual Astor Program procedure? Did the district identify its brightest children? If the I.Q. was not a true measure of the child's ability, would the scores on achievement tests show this?

A review of the following data confirmed our opinion that the Stanford-Binet is a better screening device for minority populations than the "alternative" procedures so frequently recommended.

The Results of the I.Q. Testing

A comparison of the Stanford-Binet I.Q.'s of the "test" classes as compared with all other Astor Program classes is presented in Table 5-1 and Chart B.

Note the range of I.Q.'s represented in each group - from 99 to 163 in the "test" classes and 120 to 170+ in the rest of the Astor Program classes.

Table 5-1

PROPORTIONS OF PUPILS BY I.Q. RANGES
IN DISTRICT 27 AND ALL OTHER ASTOR PROGRAM CLASSES
(Stanford - Binet)

Standard Deviation	I.Q. Range	District 27		Others	
		f	%	f	%
0.0 - 0.4	-100 - 107	1	1.82	-	-
0.5 - 0.9	108 - 115	2	3.64	-	-
1.0 - 1.4	116 - 123	8	14.55	1	0.61
1.5 - 1.9	124 - 131	14	25.45	1	0.61
2.0 - 2.4	132 - 139	12	21.82	20	12.27
2.5 - 2.9	140 - 147	9	16.36	49	30.06
3.0 - 3.4	148 - 155	6	10.91	53	32.52
3.5 - 3.9	156 - 163	3	5.45	25	15.34
4.0 - 4.24	164 - 167	-	-	5	3.07
4.25 - 4.49	168 - 171	-	-	8	4.91
4.5+	172+	-	-	1	0.61
	N	55		163	

Second, note the concentration of scores. In the "test" classes, 37 of the 55 pupils, 67.3 per cent, had I.Q.'s below 140; while there were only 21 out of 163 children, or 12.9 per cent, in the rest of the Astor Program classes in this lower range. (Several of these lower scores in the other Astor Program classes were due to language handicaps at the beginning of the program.) By contrast, note that only 18 out of the 55, or 37.72 per cent of the "test" pupils had I.Q.'s above 140, while 86.5 per cent of the rest of the Astor Program pupils (141 of 163) were in this high range. There were no "test" pupils in the very high ranges, above 4.0 standard deviations (I.Q. 164+), while in the group selected by the regular Astor Program criteria there were 14 or 8.59 per cent.

In terms of identification of minority populations, only one of the children in the very high I.Q. levels, above 156 I.Q., was Black, while in the group selected with the aid of a Stanford-Binet, there were three or 1.84 per cent who were Black. At the next lower level, I.Q.'s between 149 and 155 (3.5-3.9 s.d.), the three children in the "test" group were Black. In the other Astor Program classes, there were 25 children (15.34 per cent) in this category.Of these, ten were Black.

In the "test" pupil population of which 58.9 per cent were Black, only five or 8.9 per cent achieved scores above 3.0 standard deviations (I.Q.'s above 148); whereas in the other Astor Program classes, where the Black representation was 23.8 per cent, 12.3 per cent of the pupils with I.Q.'s over 148 were Black. Thus it is quite clear that "alternative" methods do not necessarily aid in identifying more minority pupils. In fact, they may actually operate to their disadvantage. A Stanford-Binet, individually administered by a competent psychologist, is far more efficient in identifying

PERCENTAGES OF STANFORD-BINET IQ'S IN
DISTRICT 27 CLASSES AND ALL OTHER ASTOR PROGRAM CLASSES

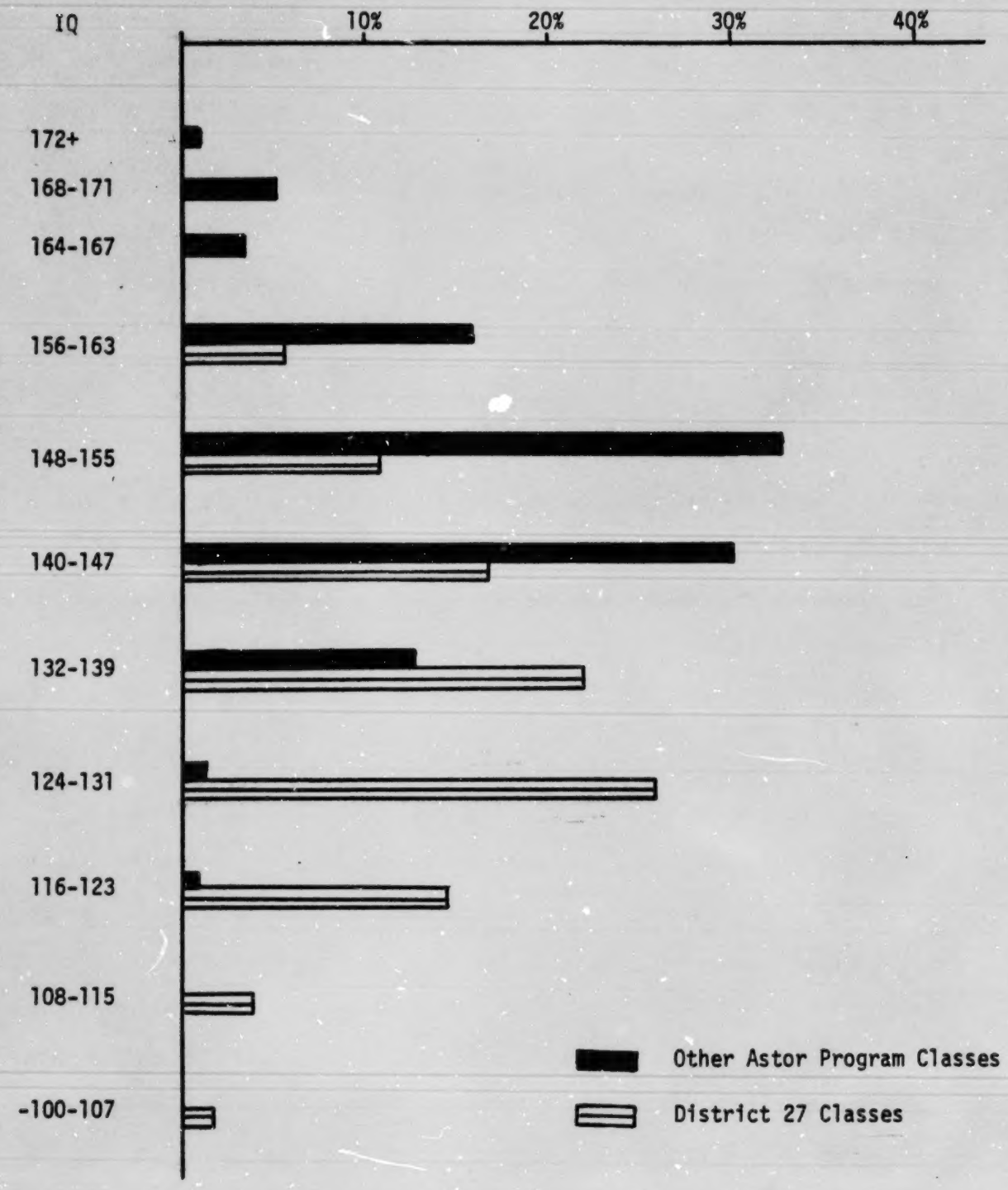

Chart B

high I.Q. minority pupils. Three of the Black children in the regular Astor Program classes reached the test ceiling. All three of these "top" ability children selected by Astor Program standard procedures came from low to lower middle socio-economic status. Two came from fatherless homes.

A careful review of Stanford-Binet items at the younger age level will reveal that the test taps factors associated with developmental patterns of growth and are far more "culture-free" than the subjective judgments required by questionnaires and checklists.

Results of Achievement Testing

It may be suggested that the children who were identified by the "alternative" criteria might not do well on the I.Q. tests, but they would certainly achieve well if given the opportunity. The opportunity was given, but the results remained consistent. The "test" group performed at significantly lower levels than the other Astor Program classes, but at levels that were consistent with their I.Q. scores.

The Reading Test. On the MAT Total Reading Test, there was a difference of 12.6 grade equivalent months between the groups. The mean for the "test" group was 2.49 while the mean for the other Astor Program classes was 3.75 at the end of the second year of teaching. No "test" pupil achieved a grade equivalent above 3.9, while the other Astor Program children reached up to grade 6.9 (37.7 per cent). About 60.7 per cent of the "test" pupils achieved grade equivalent scores below 2.5, while only 19.5 per cent of the other Astor Program children were below that level. These data are summarized in Table 5-2.

Table 5-2

COMPARISON OF READING ACHIEVEMENT OF LEVEL II PUPILS IN DISTRICT 27 AND ALL OTHER ASTOR PROGRAM PUPILS

GRADE EQUIVALENT	DISTRICT 27 f	%	OTHER DISTRICTS f	%
1.0 - 1.4			1	1.2
1.5 - 1.9	3	10.7	3	3.7
2.0 - 2.4	14	50.0	12	14.6
2.5 - 2.9	6	21.4	8	9.8
3.0 - 3.4	2	7.1	17	20.7
3.5 - 3.9	3	10.7	10	12.2
4.0 - 4.4			7	8.5
4.5 - 4.9			7	8.5
5.0 - 5.4			9	11.0
5.5 - 5.9			1	1.2
6.0 - 6.4			6	7.3
6.5 - 6.9			1	1.2
N	28		82	
MEAN	2.49		3.75	

The Mathematics Test. In mathematics achievement, the results were similar. Only one "test" pupil achieved a score above 3.9, while 16 or 21.3 per cent of all others did attain scores above 3.9, from 4.0 to 5.9. There was a difference of 4.5 grade equivalent months between the groups, in favor of the other Astor Program pupils.

These data are summarized in Table 5-3.

Table 5-3

COMPARISON OF MATHEMATICS ACHIEVEMENT OF LEVEL II PUPILS
DISTRICT 27 AND ALL OTHER ASTOR PROGRAM PUPILS

GRADE EQUIVALENT	DISTRICT 27 f	%	OTHER DISTRICTS f	%
1.0 - 1.4			1	1.3
1.5 - 1.9	1	3.8	3	4.0
2.0 - 2.4	11	42.3	18	24.0
2.5 - 2.9	8	30.8	21	28.0
3.0 - 3.4	2	7.7	9	12.0
3.5 - 3.9	3	11.5	7	9.3
4.0 - 4.4			6	8.0
4.5 - 4.9	1	3.8	3	4.0
5.0 - 5.4			4	5.3
5.5 - 5.9			3	4.0
N	26		75	
MEAN	2.68		3.13	

In summary, it seems that the "alternative" procedures used for identification in District 27 were not as efficient in selecting the brightest pupils in that population. Assuming that there would be an approximately similar distribution of scores among school districts, one should expect more children in the higher I.Q. ranges from our "test" district. (Note that city school districts have pupil populations ranging from 16,000 to 32,000 pupils.)

The factor of correlation between I.Q. and socio-economic level may be raised as an issue. Again, we note that our brightest Black children were not of high socio-economic status. As a matter of fact, even though a substantial number came from homes with professional backgrounds, at least half of the Black children in the other Astor Program classes were of low to lower middle socio-economic status. Several were on welfare.

Some had fatherless homes. One was in foster care; another had a mother who was incarcerated for attempted manslaughter during the period of the program. All had been identified by Stanford-Binet scores and most had been nominated for the program by their mothers.

The purpose of this section is not to discourage the use of alternative identification procedures, but rather to encourage further research in the area. The success of the Astor Program procedures was due, in great part, to the quality of the testing and the careful review of all records and data available about each child. It is a time consuming process. It is our feeling, however, that identification is a vital part of any program for the gifted. No child should be included whose placement in the program could lead to later disappointments for both the child and the parents. The disparity in capacities can become a serious problem as the child progresses through school, and the higher achievement expectations created by an inaccurate identification can be a cause of real grief both to the parents and the child.

Number of Pupils Admitted to the Program

Altogether, 409 pupils were admitted to Astor Program classes from February, 1974 through the school year ending in June, 1977. From 1977 to 1978, 258 were added to already existing classes and to newly formed classes. These children were selected by the local school districts, following in broad outline criteria established by the Astor Program. These figures do not include children who were accepted for the program, but who did not actually attend. There were 38 of these. (See Table 5-4.) An additional 210 were tested up to June, 1977, but were found to be ineligible.

Table 5-4

TOTAL NUMBERS OF CHILDREN ADMITTED
February, 1974 - June, 1977

		Did Not Attend*			Attended		
		Boys	Girls	Total	Boys	Girls	Total
Level I	1974	2	2	4	34	33	67
	1975	6	8	14	60	55	115
	1976	11	9	20	94	99	193
	Total	19	19	38	188	187	375
Level II	1974	0	0	0	0	0	0
	1975	0	0	0	3	4	7
	1976	0	0	0	13	7	20
	Total	0	0	0	16	11	27
Level III	1974	0	0	0	0	0	0
	1975	0	0	0	0	0	0
	1976	0	0	0	3	4	7
	Total	0	0	0	3	4	7
GRAND	TOTAL	19	19	38	207	202	409

*Parents brought their children for testing, but decided against entering the child in the program. Most frequent reason given was transportation difficulties. Some were seeking an evaluation for the child, but not admission.

As the program became better known, our files of applications grew rapidly. Up to the spring of 1977, when applications were transferred to the local school districts, we had received over 2000 applications. Most of these were not processed as there were no places for the applicants. Additionally, more than 600 telephone inquiries were handled each year. Ninety parents did not keep their testing appointments.

Comments

Note that not all the pupils were in attendance throughout a school year or from year to year. There is a great deal of pupil mobility in New York City. Several factors accounted for pupil withdrawal from the program; (1) change of residence; (2) parent inability to transport the child to the school (other than financial reasons); (3) doubts about the continued funding for the program. Only one set of parents withdrew a child because of dissatisfaction. Two years later, they requested re-application for a younger child. Several children were withdrawn at the request of the director, because of emotional or psychological problems that were beyond our capacities to handle or because it was in the best interest of the child to be in a less demanding educational environment.

For example, one boy was physically so violent that he endangered other children. It was not possible to obtain the cooperation of his working, single parent (by choice) mother. He had no home life, coming to school via one babysitter, going home to a second, and transferring to a third until bedtime. Although the teachers were willing to cope with most problems, there was no way we could protect his classmates from bites and other attacks. Another boy had a psychotic mother who had to be kept away from the classroom. The father handled as much as he could. Unfortunately, the boy's reactions to this home tragedy took the form of regressive behavior. He became incontinent and so disruptive in the class as to make learning for the other children virtually impossible. Another little girl was just not ready to be separated from her mother. She persisted in the most infantile behaviors to attract attention and which were disruptive of classroom activities. This was a child who needed to be in a reassuring, intimate environment, preferably at home with her mother.

The emotional and social needs of gifted children at this age are a serious consideration in planning classes. We found that many needed help, and we provided as much as we could within the framework of our limitations. This aspect of my work is the topic of another publication in process.

There were several reasons that we know, and a few we do not, for situations where children were accepted but did not attend. In spite of our precautions to avoid this, some parents were "school-shopping." Such parents really preferred to enlist in an established school, where continuity was no problem. Some could not resolve transportation problems. Others had not read our literature or fully understood the nature of the program. A few wanted the prestige of having their child admitted, but were not willing to make the accommodations necessary for a transfer to one of our schools.

Intelligence Levels of Astor Program Pupils

The Astor Program was designed for children of exceptional intellectual ability. As measured by the Stanford-Binet, or by any other test, a definition of exceptionality in terms of I.Q. scores will vary with the goals of the program and local circumstances. There is no arbitrary cut-off point that can be selected. In the Astor Program, we set as a goal reaching the top one per cent of the pupil population for these reasons:

1. It was our purpose to service children of rare exceptionality
2. Estimates of the New York City pupil population of the pre-kindergarten - kindergarten range suggested that this would be a reasonable cut-off point for the class spaces we were considering.

3. Although we fully expected to have to make exceptions for reasons of test fallibility or results inconsistent with other criteria of of observation, a low score of 140 was set as a guideline.

The data in Table 5-5 describe the average I.Q. levels of the children who were accepted by the Astor Program through the school year ending June, 1977. The data are presented by school and year of admission and apply only to children accepted for Level I classes.

Consistency of I.Q. Data

Continuous review of our pupil evaluation was an integral part of the Astor Program screening procedure. Inconsistencies between pupil performance and our records were carefully reviewed to check on our procedures. We found, for example, an occasional child whose lower performance levels did not match the expectations our data suggested. Teachers sometimes questioned the eligibility of a child for the advanced work involved.

Each case was carefully reviewed. An observer sat in the classroom to note the child's behavior. We drew on our psychological staff for opinions. Usually, we found that the child's performance was probably lowered by a home situation over which we had no control.

In addition to following through on individual case histories, we reviewed each pupil's record at the end of each school year. All children were given a second Stanford-Binet. Table 5-4 summarizes the results of a comparison between initial I.Q. scores and those attained in the Spring of 1977 for two groups of children. Data for the 1974-1977 children represent a three-year interval between tests. Data for 1975-1977 children represent a two-year interval. The consistency of the data is very good, with means almost equal between testings. The results lend support to our belief that

Table 5-5

MEAN AND RANGE OF STANFORD BINET INTELLIGENCE QUOTIENTS
OF ASTOR PROGRAM CHILDREN ON ADMISSION TO LEVEL I CLASSES

Year and School	Boys N	Boys Mean	Boys Range	Girls N	Girls Mean	Girls Range	Total N	Total Mean	Total Range
1974-75									
Alpha	17	148.1	135-163	16	147.4	132-171+	33	147.8	132-171+
Epsilon	17	148.4	119-170+	17	149.9	134-171+	34	149.1	119-171+
1975-76									
Alpha	17	154.8	140-172+	14	150.8	138-164	31	153.0	138-172+
Epsilon	12	148.4	136-171+	15	152.0	137-169+	27	150.4	136-171+
Theta	17	146.5	138-166+	11	149.0	138-170+	28	147.5	138-170+
Kappa	14	135.3	114-154	15	132.8	116-155	29	134.0	114-155
1976-77									
*Alpha	8	151.1	141-164	11	152.7	143-163	19	152.1	141-164
*Beta	10	147.5	132-161	9	143.1	121-164	19	145.4	121-164
Gamma	11	151.5	138-169+	10	143.7	128-166+	21	147.8	128-169+
Delta	13	144.1	132-158	9	147.6	135-161	22	145.5	132-161
Zeta	15	148.0	135-165	9	144.6	136-152	24	146.7	135-165
Eta	13	153.0	138-170+	11	146.7	133-166+	24	150.1	133-170+
Theta	8	142.6	134-154	18	152.0	138-170+	26	149.1	134-170+
**Kappa	13	129.2	99-150	16	140.4	118-163	29	135.4	99-163

*Several children had to be left out of this group because they were admitted on the basis of WPPSI scores.

**Children in this school were not selected on the basis of I.Q. testing. See "Alternative Pupil Selection Procedure. (p. 82)

Table 5-6

CONSISTENCY OF STANFORD-BINET INTELLIGENCE QUOTIENTS
OF ASTOR PROGRAM PUPILS OVER TIME
(1960 Norms)*

Sex	N	Mean 1974 I.Q.	Mean 1977 I.Q.
Boys	14	146.4	146.1
Girls	16	144.1	143.7
Total	30	145.2	144.8

Sex	N	Mean 1975 I.Q.	Mean 1977 I.Q.
Boys	45	146.8	146.5
Girls	35	144.7	144.5
Total	80	145.9	145.6

*1960 norms are used because these were the only ones available from many sources when we started the study.

a well-administered, individual test of intelligence is a reliable and stable instrument to use as part of an identification procedure. It is also consistent with the general history of the Stanford-Binet.

Averages, of course, conceal variations, and we did have them. There were several children whom we watched closely because of the serious psychological problems of home origin that they experienced while attending school. One boy was separated from his mother without warning and for a long period of time. His performance dropped perceptibly and showed little sign of improvement until his mother returned. On the Stanford-Binet, his score dropped by 40 points, yet his classroom achievement showed occasional sparks of his former self. His teacher always rated him among the brightest in the class.

A little girl was quite distressed by her mother's preoccupation with death. The child spoke of hurting herself, of feeling and being unworthy, and generally in terms of self-hurt and destruction. She was a sad, withdrawn child with enormous capabilities, which were being stifled by emotional distress. Her I.Q. dropped about 20 points over two years. (The parents were advised to seek help for her, which they did under pressure.)

Another boy reacted very badly to a combination of misfortunes at home, including the illness of his mother. His score dropped from 151 on admission to 129 after two years.

And there were others whose sad home lives were frequent causes of distress to those of us who dealt with these children. Our feeling was that the class was a refuge for them, one place where they would be understood and accepted on their own terms.

On the other hand, there were individual pupil gains, and these were as dramatic as the losses. An Oriental child who was accepted with an I.Q. of 125 because of language problems actually achieved an I.Q. of 157 after she completely mastered English. A Black child whose mother was on welfare and whose father was unknown responded to the program with a gain of 20 I.Q. points. It should be noted that the initial psychological testing had indicated that the child's first score had to be an absolute minimum estimate of his capacity. Both of these cases are good examples of the importance of using experienced and sympathetic psychologists in the screening procedure. Too many of our school psychologists are so involved with retardation, emotional and social problems, that they are not prepared to cope with the reactions of a truly gifted child. However, most variations in either direction can really be ascribed to the expected fluctuations of test scores and are rarely as large and dramatic as those cited here.

Correlation Between Pupil Intelligence and Teacher Ratings

Several studies have reported that teachers do not recognize gifted pupils in their classes with too much efficiency. Pegnato and Birch's (15) study was very well done and provided quite convincing evidence of this observation. In recent years, there has been a tendency to aid teacher judgment by providing guidelines or checklists. We were especially interested in learning whether Astor Program teachers, who were given a considerable amount of training in the psychology and nature of the gifted, would prove to be efficient in ranking their pupils in order of intellectual ability. Of course, this is not quite the same as selecting a gifted child from the general population. We suspected that after the training and experience with our gifted youngsters, Astor Program teachers would be quite

alert to the signals from a truly exceptional child. We were curious to know whether the teachers could identify their most brilliant students in terms of I.Q. rating. It should be noted here that teachers were not informed of the children's I.Q. rating at any time.

We asked them to rank order their pupils according to their estimates of the child's intellectual capacities. They were advised to rule out any consideration of actual classroom performance or behavior. There were twelve teachers involved in this study, eight with Level II children (second year of the program) and four with Level III children (third year of the program). A summary of the results of their ranking is presented in Table 5-7.

The number of children ranked in any class ranged from 19 to 26. The actual intelligence quotients ranged from 120 through the ceiling of the test. The rankings for the total group of 279 children for the twelve teachers combined correlated at a significant -.335. The negative correlation arises because the child with the highest I.Q. would receive a ranking of 1, the next lower I.Q. would receive a ranking of 2, etc., giving an inverse relationship between rankings and I.Q. ratings.

The significance of the correlation refers to the fact that this relationship was not a chance occurrence, but would probably recur if the experiment were repeated. In terms of actual correspondence between the rankings and the I.Q. ratings, the fact is that the teachers did not recognize many of their very superior children, even in this highly selective

Table 5-7

CORRELATIONS BETWEEN PUPIL I.Q.'s[1] AND TEACHER RANKINGS[2]

Teacher	N	r
1	21	+.022
2	21	-.053
3	19	-.224
4	24	-.586**
5	24	-.564**
6	24	-.227
7	24	-.288
8	22	-.322
9	27	-.459*
10	21	-.245
11	26	-.423
12	26	-.221
Total	279	-.335**

[1]Only Stanford-Binet Scores Used

[2]Rankings from 1 (highest) down

*p < .05

**p < .01

situation. It is interesting that there were three teachers whose rankings yielded highly significant correlations. In each case, these were experienced teachers with a professional approach to their work. They were, as a group, less overtly emotional in their involvement with the children than the others.

Their classes were efficiently handled and they were superb teachers. However, one could not say that they were superior to their colleagues, as each teacher possessed characteristics that made for positive contributions to the program. The observations are presented as tentative hypotheses as to why these three might have been more objective than the others in ranking their children according to intellectual ability.

There is an important observation to be made here, however. Throughout the program, we found that there were children whose classroom performance was, in the eyes of the teachers, inconsistent with their ability levels. Occasionally, they would report on the activities of a child, and seem to be quite unaware of the child's really high abilities.

We made a scatter diagram of their rankings and noted that they were all quite successful in identifying the children at the lowest ability levels and in the middle range of I.Q.'s. Please bear in mind that we are speaking of a total range of I.Q.'s from 120 to 170. What did seem to escape the attention of the teachers was the child in the very high levels, I.Q. above 150 or thereabouts. It is here that pupil performance is least consistent with classroom expectations. In all cases, we had verified the I.Q. scores and knew them to be as correct as such a score can be. In any event, on objective tests, these high ability children performed consistently with their high ratings.

These observations tend to confirm our feeling that a well administered individual intelligence test is a must for children in the very superior range of abilities.

Ages of the Children on Admission to the Program

A special aspect of the Astor Program was the fact that we deviated from the usual admittance age for the kindergarten in the New York City public schools. While the city admitted children who were four years and eight months as of September first of the school year, we admitted children who were from four years and zero months. In a way, this was an early admissions technique, since we did advance most of these pre-kindergartners to first grade at the end of the first school year. In fact, it had been our special purpose to try to service these very young children who were ready for school but who were not normally admitted. In setting up our selection criteria, we gave special priority to children who were very young and exceptionally bright with very high I.Q.'s.

Table 5-8 summarizes the percentages of children in various age categories who were admitted to the program. Of the 321 records presented in the table, it will be seen that 47 per cent of the children accepted to the program were in the age ranges from 4-0 to 4-8. Discounted from this report is one school where the district felt it did not wish to involve children at the pre-kindergarten stage. This was a special district where we were trying to reach a large minority population, and we therefore complied with the district's preference.

Ages and Grades Represented at Each Astor Program Level

Since the ages of children admitted to Astor Program classes did not correspond to those usually admitted to kindergarten classes, we used a different designation for our classes. The first classes were designated Level I, with ages ranging from 4-0 through 5-7. Children between the ages of 4-0 through 4-7 were technically pre-kindergartners. For adminis-

Table 5-8

AGES OF CHILDREN ON ADMISSION TO LEVEL I
FROM FEBRUARY, 1974 THROUGH JUNE, 1977

Age Ranges	Boys		Girls		Total	
	N	%	N	%	N	%
*3-9 to 3-11	1	0.6	2	1.3	3	0.9
4-0 to 4-2	18	11.1	15	9.4	33	10.3
4-3 to 4-5	29	17.9	27	17.0	56	17.5
4-6 to 4-8	31	19.1	29	18.2	60	18.7
4-9 to 4-11	24	14.8	21	13.2	45	14.0
5-0 to 5-2	26	16.0	32	20.1	58	18.1
5-3 to 5-5	25	15.4	20	12.8	45	14.0
5-6 to 5-8	8	4.9	13	8.2	21	6.5
Total	162		159		321	

*Three children were accepted after attaining age 4-0, but they were younger than the rest of the class by a little over one month.

trative purposes, as well as for practical considerations related to the child, we retained the technical designation of grades on the pupil record. This made transfer from one school to another easier and it retained the awareness by both pupil and parent of the actual grade in which the child belonged. Thus, if at the end of Level I, a child was not ready to accelerate from pre-kindergarten to grade 1, there was no problem. He could continue in Level I for a second year as a kindergartner. This same policy was applied throughout the other levels as well, so that pupils would not feel that they were not progressing through school at a normal pace. Table 5-9 summarizes the levels, age ranges, and corresponding grades represented in Astor Program classes from February, 1974 through June, 1978.

Although this may seem like a complex arrangement, it was necessary both for administrative purposes and the child's best interests. Most children did accelerate from pre-kindergarten to first grade. A few did

Table 5-9

AGES AND GRADES REPRESENTED AT EACH ASTOR PROGRAM LEVEL

Level	Age Range	Grades
I	4-0 to 5-7	Pre K - K
II	5-0 to 6-7	K - 1
III	6-0 to 7-7	1 - 2
IV*	7-8 to 9-1	2 - 3 - 4

*Pupils in Level IV were 4-0 to 5-7 as of February 1, 1974, when the classes started. All pupils admitted after that date had to be at least 4-0 as of September 1st of the year of admission to Level I, 5-0 for Level II, and 6-0 for Level III.

not. Some of these were accelerated later in Levels II or III, when they were ready for it.

Reading Levels of Astor Program Pupils on Admission

As part of the admissions procedure, we tried wherever possible to administer a brief reading test to the applicant, to aid us in making our selections. We found that many of the children were beyond the "readiness" stage of reading and an impressive number were quite advanced in their abilities. In Table 5-10, there are summarized percentages of pupils performing at various grade equivalent levels on the reading section of the Wide Range Achievement Test (WRAT).

Study of the table will show that fewer than six per cent of the children were at the Readiness, Pre-kindergarten, or Kindergarten stages of reading. Most of the children, 58.1 per cent, were reading at first grade level, and an impressive 36.2 per cent had a reading vocabulary above grade one. The full range of abilities can be seen from the table to go all the

Table 5-10

READING VOCABULARY SCORES OF PUPILS ON ADMISSION TO LEVEL I
(Test: WRAT - 1973-1976 Testings)

Grade Equivalent	Boys %	Girls %	Total %
Readiness -			
Pre-kindergarten	3.5	1.5	2.6
K 1 - 3	0.7	0.7	0.7
K 4 - 6	0.7	1.5	1.1
K 7 - 9	2.1	0.7	1.4
Grade:			
1.0 - 1.4	42.3	53.3	47.7
1.5 - 1.9	9.2	11.7	10.4
2.0 - 2.4	6.3	6.6	6.5
2.5 - 2.9	6.3	3.7	5.0
3.0 - 3.4	4.9	2.9	3.9
3.5 - 3.9	6.3	2.9	4.7
4.0 - 4.4	3.5	3.7	3.6
4.5 - 4.9	8.5	5.1	6.8
5.0 - 5.4	3.5	3.7	3.6
5.5 - 5.9	0.7	2.2	1.4
6.0 - 6.4	1.4	0.0	0.7
N	142	137	279

way up to the sixth grade level. Obviously, this was not a group for whom the conventional kindergarten diet of letter recognition was going to be appetizing fare. As will be seen in the section on pupil achievement, the pupils maintained their outstanding performance in this area, attaining reading scores well beyond their grade levels, and making statistically significant progress in the program as compared with a high achiever national norm population.

Ethnic Backgrounds of the Pupils

The purpose of the Astor Program was not to integrate classes, but to meet the special needs of unusually gifted children in the city, regardless of origins. Given the large pupil population of the city, it seemed inevitable that a reasonable representation of all groups would result, if we could reach a large enough public.

As we have stated elsewhere, we used all the media at our command to advertise our program. The major city newspapers, "The New York Times" and the "Daily News" ran brief items for us. We used the local area newspapers, including the foreign language dailies in Spanish and Chinese to reach the minorities. There were announcements by radio and flyers were sent home via school children. Notices were sent to day care centers, nursery schools, psychological and psychiatric clinics.

In terms of national origins of our pupils, there was a veritable United Nations in the classes. More than 49 national origins were represented by the parents, including countries on all the inhabited continents. The great majority, of course, were born in the United States (mothers - 82.8 per cent; fathers - 81.4 per cent).

Table 5-11

REPRESENTATION OF ETHNIC GROUPS IN NEW YORK CITY POPULATION* AND IN THE ASTOR PROGRAM

Ethnic Group	City Per Cent	Astor Program Per Cent
White	60	66.0
Black	21	23.8
Spanish-Speaking	16	4.4
Oriental	2	5.8
American Indian	1	.01

*Source: U.S. Census (1970)

In Table 5-11, there is a summary of the representation of the various ethnic groups in terms of the city as a whole and in the Astor Program. It is to be noted that, although the pupil population of the public schools is predominantly Black and Puerto Rican, for the city as a whole, the ethnic distribution of the population is still predominantly White. For the age level represented in entering Astor Program classes, it is the city as a whole that must be considered. A major problem confronting the city is the fact that parents of bright children, of all backgrounds, seek out special schooling for their children and frequently turn to private and parochial schools in the belief, often erroneous, that their children's needs will be met better there. The Astor Program proved to be an attractive alternative for such parents.

There is a reasonably close representation in the Astor Program of Black and White children, more than one might have expected in the Oriental population,

but fewer than one might have wished among the Puerto Rican and Spanish speaking. Inquiries among their leaders and representatives led to some explanations. The Puerto Ricans do not like to send their children far from home. They do not recognize the giftedness of their girl children. Their children are handicapped by not speaking or understanding English at the age levels involved. Even after the program became well known in the city, few Puerto Rican families applied for their children.

Number of Children in Astor Program Families

A majority (53 per cent) of children in the Astor Program came from families with two children. Over one-fourth (27.9 per cent) were only children. As can be seen from Table 5-12, the percentages in other categories are: three children, 10.7 per cent; four children, 3.9 per cent; five children, 1.1 per cent; and six children, 1.1 per cent. The data are based on records for 355 children, 179 boys and 176 girls. At least seven of the Astor Program children were adopted.

Table 5-12

NUMBER OF CHILDREN IN FAMILIES OF ASTOR PROGRAM CHILDREN
(N = 355 Families)

Number of Children	Boys		Girls		Total	
	N	%	N	%	N	%
1	51	28.4	48	27.3	99	27.9
2	98	54.7	90	51.1	188	53.0
3	17	9.5	21	11.9	38	10.7
4	8	4.5	6	3.4	14	3.9
5	1	0.6	3	1.7	4	1.1
6	1	0.6	3	1.7	4	1.1
No data	3	1.7	5	2.9	8	2.3
Total	179		176		355	

Birth Order of Astor Program Children

Birth order in relation to intelligence has been a topic of interest for many years. Terman reported on this characteristic of his gifted population and many have followed him. More recently, Zajonc has offered a confluence theory of family configuration and intelligence (20), which favors the first born. Others, such as Velandia et al. (19) and Pulvino and Lupton (16) have questioned this theory. Velandia et al. present evidence for 36,000 Colombian college applicants which suggests that socio-economic status is "the more important correlate of intelligence than family size." In their data, the birth order did not correspond to Zajonc's model. Pulvino and Lupton studied 380 gifted high school students and found that the first born in a small family (one or two children) achieved higher scores on the Terman Concept Mastery Test than latter born children in medium or large families. It is our suspicion that this is a far subtler study than is generally recognized in birth order studies. We are particularly interested in the consistency of results over time. We will, therefore, confine ourselves to the Astor Program children and suggest a few comparisons with the Terman data.

Among Astor Program children, 58.3 per cent were first born. Of these, 27.9 per cent were only children, 28.7 per cent were first born in a family of two, and 1.7 per cent were first born in a family of three children. (Table 5-13.)

An interesting observation for larger families (four or more children) is the fact that our gifted children were usually the last born. Of the 15 (4.3 per cent) who came from families of four or more children, 14 were the youngest in the family and one was next to the youngest.

Table 5-13

BIRTH ORDER OF ASTOR PROGRAM CHILDREN
(N = 355 Families)

Birth Order*	Boys N	Boys %	Girls N	Girls %	Total N	Total %
1/1	51	28.4	48	27.3	99	27.9
1/2	46	25.7	56	31.8	102	28.7
1/3	3	1.7	3	1.7	6	1.7
2/2	52	29.0	34	19.3	86	24.2
2/3	7	3.9	5	2.8	12	3.4
2/4	1	0.6	1	0.6	2	0.6
3/3	7	3.9	13	7.4	20	5.6
3/4	3	1.7	0	0.0	3	0.8
3/5	0	0.0	2	1.1	2	0.6
4/4	4	2.2	5	2.8	9	2.5
5/5	1	0.6	1	0.6	2	0.6
5/6	0	0.0	2	1.1	2	0.6
6/6	1	0.6	1	0.6	2	0.6
No Data	3	1.7	5	2.8	8	2.2
TOTAL	179		176		355	

*Read: 1/2 -- First in a family of two; etc.

These statistics must be interpreted with care. Although they are, of course, descriptive of Astor Program children, one cannot generalize from them to the population. A four-year old could scarcely be the oldest in a family of five children, unless there were twins along the line. The only generalizations that can be made are that this might be the nature of a class of superior children of this age level at this time. It tells us nothing about birth order or rank of gifted persons in general, as one would need to have data on the family much later in its history.

In 1925, when Terman published the first volume of the Genetic Studies of Genius (18), families were much larger. Terman (p. 124) reported that the family sizes of his gifted children ranged from one to eighteen. He too, found it difficult to establish the actual status of the family in terms of completeness. A few comparisons are, however, of interest. Terman reported that 273 out of 574 children were first-born, or 47.6 per cent. Our data yielded 59.0 per cent who were first born or only children. We cannot make any further generalizations about "only" children as our families were too young to be considered "complete" at this time.

Terman reported that 15.3 per cent of his children were first born and only children (p. 124). We cannot conclude that our "only" children will remain in that status, but as of the second year of the study, 27.9 per cent were in that category.

In analyzing the birth order of his pupil population, Terman draws a comparison with Cattell's study for American men of science. We have appended our data to the comparison made by Terman. Terman says: "There is a very striking agreement between Cattell's data and our own for families of two children." (p. 122). The statement would apply to our data.

	First Born	Second Born
Astor Program	54.3	45.7
Cattell	57.4	42.6
Terman	56.1	43.9

There is one point, however, that arouses our interest. Terman compared the combined sexes, as we have done, with Cattell's "men" of science. In breaking down our data by sex, we find that the girls outnumber the boys as first-born in a two-child family by a statistically significant margin,

$p < .02$. There were 62.2 per cent first born girls in a two-child family versus 37.8 per cent boys. (See Table 5-14.)

Table 5-14

COMPARISON OF FREQUENCIES OF BOYS VS. GIRLS IN A TWO-CHILD HOUSEHOLD

Birth Order	Boys	Girls	Total	Per Cent
1/2	46 (46.9%)	56 (62.2%)	102	54.3%
2/2	52 (53.1%)	34 (37.8%)	86	45.7%
TOTAL	98	90	188	

Languages Spoken in Home

English was the dominant language in 95.8 per cent of the homes of the Astor Program children, and in 14.1 per cent of these a second language was also spoken. Dominant languages other than English spoken in the homes were: Chinese 1.4 per cent, Italian 0.6 percent, Spanish 0.3 per cent, Greek 0.3 per cent, Portuguese 0.3 per cent, Japanese, and Ibo (Nigerian), but these represented only one to five homes in each category.

Table 5-15

MARITAL STATUS OF ASTOR PROGRAM PARENTS
(N = 355 Families)

Status	N	%
Married	298	83.9
Separated	24	6.8
Divorced	21	5.9
Widowed	1	0.3
Single (not married)		
Father	0	0.0
Mother	1	0.3
No data	10	2.8

Marital Status of Astor Program Parents

Of the 355 parents who responded to our questionnaire, ten omitted the item on marital status, 83.9 per cent reported that they were married; 6.8 per cent were separated; 5.9 per cent were divorced; 0.3 per cent were widowed; not married, one mother or 0.3 per cent. (See Table 5-15.)

Terman reported that 5.2 per cent of his parent population were divorced, 1.9 per cent were separated, and 92.1 per cent of the families "were known to be unbroken." (p.74)

Table 5-16

AGES OF ASTOR PROGRAM PARENTS AT BIRTH OF CHILD
(N = 355 Families)

Age Range	Mother		Father	
	N	%	N	%
16 - 19	13	3.6	7	1.9
20 - 23	42	11.9	24	6.8
24 - 27	108	30.4	63	17.7
28 - 31	98	27.6	89	25.0
32 - 35	56	15.8	68	19.2
36 - 39	27	7.6	45	12.6
40 - 43	7	2.0	30	8.5
44 - 47	1	0.3	12	3.4
48 - 51	0	0.0	6	1.7
52 - 55	0	0.0	2	0.6
56 - 59	0	0.0	1	0.3
60 - 63	0	0.0	1	0.3
No data	3	0.8	7	2.0
Mean	28.4		32.1	

Ages of Astor Program Parents at Birth of Child

The age ranges of Astor Program parents at birth of their children were from 16 to 45 for mothers and 17 to 63 for fathers. Most of the mothers (58.0 per cent) were between the ages of 24 and 31; and most of the fathers (56.6 per cent) were between the ages of 26 and 35. A summary of the distribution of their age ranges appears in Table 5-16. The mean age of the mothers was 28.4; the mear age of the fathers was 32.1.

Table 5-17

EDUCATIONAL BACKGROUND OF ASTOR PROGRAM PARENTS
(N = 355 Families)

Highest Level Completed		Mother N	Mother %	Father N	Father %
Grade 6		3	0.8	2	.6
Grade 8		5	1.4	5	1.4
High School:	Graduate	100	28.2	76	21.4
	Incomplete	6	1.7	6	1.7
Junior College		34	9.6	25	7.0
College:	Graduate	68	19.2	51	14.4
	Credits	42	11.8	31	8.7
Master's		64	18.0	68	19.2
Doctorate		10	2.8	59	16.6
Graduate Work (no degree)		23	6.5	26	7.3
No Data		0	0	6	1.7

Educational Background of Astor Program Parents

About two-thirds of the Astor Program mothers and three-fourths of the fathers had attended school beyond high school. Only 3.9 per cent of the mothers and 3.7 per cent of the fathers had not completed high school. Sixty-nine (mothers, 2.8 per cent and fathers, 16.6 per cent) had doctorates. Almost one-fifth of the parents had master's degrees (mothers, 18.0 per cent; fathers, 19.2 per cent). These data are presented in Table 5-17.

Table 5-18

PRIMARY OCCUPATION OF ASTOR PROGRAM PARENTS
(N = 355 FAMILIES)

Occupation	Mothers N	Mothers %	Fathers N	Fathers %
Parent, Homemaker	183	51.5	2	0.6
Professional	93	26.2	172	48.5
Manager, Owner	6	1.7	44	12.4
Clerical, Office	36	10.1	24	6.8
Sales	6	1.7	16	4.5
Factory Worker	6	1.7	9	2.5
Other	24	6.8	77	21.7
No Data	1	0.3	11	3.1
Total	355		355	

Primary Occupation of Astor Program Parents

The primary occupation of Astor Program parents are summarized in Table 5-18. A majority of mothers were homemakers (51.5 per cent). Others gave their primary occupation as follows: professional (26.2 per cent);manager /owner (1.7 per cent); clerical, office workers (10.1 per cent); sales (1.7 per cent); factory worker (1.7 per cent). Among the fathers, two (o.6 per cent) listed parent/homemaker as a primary occupation; 48.5 per cent were professionals; 12.4 per cent were manager/owners; 6.8 per cent were in clerical or office work; 4.5 per cent were in sales work; and 2.5 per cent were factory workers.

SUMMARY

In summary, Astor Program pupils represented the top one per cent of the intellectual population, with most I.Q.'s ranging from about 140 through the top of the Binet scale. A significantly large number had maximum scores on this test. They were from four to five years and seven months on admission to the program. Fewer than six per cent were not reading, approximately 58 per cent were able to read at first grade level, and others 46 per cent, reading at levels ranging from 2.0 to 6.4.

They came from ethnic backgrounds that were as varied as the city's population and represented over forty-nine national origins. The Spanish-speaking population was represented, but not in the proportion that one finds throughout the city.

They were similar to Terman's population in some characteristics, such as number of first-born and ages of their parents at the time of the child's birth. Their families ranged from one child to six, with two-child families predominating, unlike the Terman families that had as many as eighteen children. But, like the Terman children, there was a significantly large number of first-borns and also a large number of children who were the youngest in a large family (four or more). At least seven of the children were adopted. Average age of mothers at the birth of the child was 28.4 and of fathers, 32.1.

Their families represented all socio-economic backgrounds, with a rather large number of parents who were professionals and had advanced education and degrees. These came from all ethnic backgrounds. There were also many who had just completed high school and represented the low middle class and poverty levels.

Like the Terman families, most of the homes of the Astor Program children were stable, with both parents on hand.

English was spoken in most of the homes (95.8 per cent), and in several (14.1 per cent) there was a second dominant language, such as Chinese, Italian, Spanish, Greek, Japanese, Portuguese and Ibo (Nigeria).

Generally speaking, the Astor Program children represented a good cross-section of New York City's families.

TONY
by Kaye Starbird

Tony's drying dishes
And cleaning out the hall.
And all he did was use the phone
To make a friendly call.

For Tony's being punished
(which happens more and more)
Because he's only four years old
And much too smart for four.
A case of what I mean is this:
His parents thought it prattle
When Tony asked if he could phone
His uncle in Seattle.
So Tony's parents answered "Sure,"
Only to check too late
And find he'd talked from coast
to coast
For fifty minutes straight,
Which started Tony hollering.
He wasn't fresh or bad,
He'd asked to call Seattle,
And they let him, and he had.

Tony's in the corner
Upon the Naughty Stool
All because he tried to do
The work in nursery school.

When Tony tired of coloring
To vary his routine
Miss Keith, his teacher,
had him make
A bowl of plasticine.
But even though he made the bowl
Miss Keith looked fierce
and smitten
To note that on the back of it
MADE IN JAPAN was written.
And since it didn't seem to help
When Tony told Miss Keith
He only wrote what all cheap bowls
Had written underneath...
Not really liking fierceness much,
He took a pencil WHOOM
And fired it in a rubber band
Across the silent room.

Tony's in the corner
Where he's been sent again
Because - at four - he reads and writes
Like someone nine or ten.

Upset about the Bowl Affair,
Miss Keith - appearing grimmer -
Decided Tony might enjoy
A lovely first-grade primer.
The trouble was that later on
When she was less forbidding
And asked if Tony liked the book,
He answered "Are you kidding?
'My dog can run. My ball is fun.
My kitten is a pet.
See Mother cook. See Baby look.'
How boring can you get?"
And just to warn some future child
The story wasn't bearable,
He scribbled on the title page:
"Don't read this book. It's terrible."
Since Tony, what with this and that,
Was no example-setter,
The teacher said to stay at home
Until he acted better,
Which didn't bother Tony much,
For what could be forlorner
Than spending half your waking hours
Restricted to a corner?

So now he's sweeping sidewalks
And beating scatter rugs,
And though he keeps his mind alert
By watching birds and bugs.

He's sick of being punished
(which happens more and more)
Because he's only four years old
And much too smart for four.
He's sick of how his mother says
In accents sad and mean-y:
"He's brilliant, but
I don't know what
We'll ever do with Tony."

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Illustration by Richard L. Strahan

6 THE CURRICULUM*

The Astor Program provided a rare opportunity to implement a personal philosophy of education for gifted children. The director had tried for many years, without success, to introduce the concept of early education for the gifted in the New York City public school system. There was strong resistance to such a program, particularly on the part of early childhood specialists, who subscribed to a policy of waiting for readiness on the part of the child. Our concern was with the disparity among readiness stages of children of various abilities. While many entered school at a level that required much preparation, such as readiness for reading, a small and ignored minority was more than ready to tackle work at more advanced levels than were being offered. The introduction of Head Start programs and the growing number of psychological studies that stress learning during the early years have helped to change some of this thinking.

Underlying Premises

Underlying the philosophy of the Astor Program was a conviction that education of children, all children, begins from birth, or even from the moment of conception. Given a certain genetic endowment, the human system interacts with the environment and flourishes or diminishes in capacity in proportion to the favorable or unfavorable stimuli it receives. The earlier we help the mind to exercise all its faculties, the richer, more varied, and more developed it will be. Our concern for the newborn child should encompass all aspects of human needs - including warmth, affection, nourishment, and interaction with a stimulating, attentive environment.

*Sections of this chapter appeared in an article published in the International Journal of Early Childhood Education, August, 1978.

The earliest opportunity for formal education occurs, of course, when the child is brought to school. Most children in the United States attend kindergarten at about the age of five. Many parents send their children to nursery school for a pre-school experience or because the mother must work. I do not wish to convey the notion that these early experiences are necessarily the most desirable environment for a young child. In fact, many gifted children would profit most by remaining at home with an understanding mother, who can provide the emotional as well as intellectual nourishment such a child needs. However, the realities of life are such that we must expect that there will be many mothers who must or prefer to work, and that the customary nursery school or day care center is ill equipped to meet the needs of the exceptionally gifted child. Since these early years are so crucial to later development, it would seem logical to develop a pattern of education that will maximize intellectual growth, while providing the physical and social care that is required.

There are certain premises that underly our philosophy, which is based on a study of the nature of giftedness, as well as psychological and educational research.

First, we must accept the reality that all children are <u>not</u> born equal. Heredity, pre-natal care and nutrition, accidents and circumstances of birth, parental attitudes toward the birth of the child, the physical environment, climate, season of birth, the quality of parenting, and many other factors attend the child's beginnings and pre-determine, to a great extent, the path his life will take. Each child comes into the world as a unique personality, different from every other child. All he has in common with other children is his humanity. Many factors, known and unknown, affect

his physical, social, emotional, and intellectual growth. Since this is a book about giftedness, we are concerned with those children for whom a combination of factors has made them intellectually superior to their age peers to a significant degree.

A second premise is concerned with the limitations on human capacities. Intellectual giftedness is part heredity and part environment. Each individual has a basic maximum capacity which is rarely attained but, if attained, could not be exceeded. All the application, industry, opportunity, or favorable circumstances of life could not combine to make a genius of someone whose maximum capacity is limited.

A third premise concerns the exercise of the human mind. It needs to be used and used properly if it is to function at close to maximum capacity. This use must begin at the earliest occasion - from conception, if this were possible. The intellect needs to be exercised, just as muscles must be, if it is not to suffer similar symptoms of atrophy.

Time is an important component in intellectual development. It is a factor which is rarely considered and yet is critical in human achievement. One of the distinguishing features of a gifted child versus the non-gifted very often is related to time. He learns earlier, he speaks, sits up, smiles, walks, develops earlier than his peers. He learns faster, is ready for conceptualization earlier. He masters broad fields of knowledge, particularly those requiring abstract thought, at an earlier age than his peers.

It is possible that, given the desire and training, a less gifted person might arrive at an Einsteinian generalization in time, but the time required might exceed his normal life expectancy - and, he might never achieve it at

all, lacking the facilitation that a flexible and tenacious memory, incredible persistence and concentration, and a capacity to deal in abstractions provide to the intellectually superior person.

A fifth premise concerns verbal ability. Verbal skills and a command of language are necessary adjuncts of intellectual superiority, since it is through language that the expression of ideas, the necessary means of communication, takes place.

A sixth premise is the importance of emotions in learning. Maximal learning requires a felicitous combination of cognitive ability and affective satisfaction. Complex problems, creative concepts cannot be mastered in the presence of emotional turmoil. Too frequently, our expectations of young children in school are unrealistic because we ignore the impact of crises in their lives on their learning capacities. It takes a rare discipline to concentrate on mastering an intellectual exercise in the face of an emotional disaster.

The foregoing considerations underly the Astor Program philosophy of approaches to educating very young gifted children.

The Astor Program believes that gifted children need:

- To be in an understanding, accepting school environment with teachers and administrators sympathetic to their special needs.
- To enjoy the companionship of peers of comparable abilities.
- To discover early the joys of learning.
- To be allowed to develop socially and emotionally at a pace consistent with their ages.
- To acquire a sense of social and civic responsibility early in their school experiences.

- To be exposed to a differentiated and enriched curriculum suited to their ability levels and their special needs.

- To learn to think and reason precisely and logically.

- To develop basic skills needed in reading, mathematics, science, social living, and other curriculum areas as early as possible and to the greatest extent possible.

- To learn to accept responsibility for their own behavior and for the consequences of their acts.

- To be allowed to enjoy their childhood while realizing their intellectual potential.

Goals of the Program

The goals of the program are few, yet all-encompassing in terms of lifetime values:

- To teach the basic skills as soon as the child is ready and at a pace that is compatible with his capacities.

- To teach the thinking skills, from the simplest to the most complex, at the maximum level of the child's capacities.

- To promote a sense of social and civic responsibility, based on a socially acceptable value system.

- To experience the joys and rewards of learning.

Curriculum Development

There have been many teaching methods introduced over the years that, if carried out as intended, would have helped gifted children realize their potential. We have lived through models of grade skipping, acceleration, Dewey's activity programs, units of study, individualized instruction, open classrooms, homogeneous grouping, non-graded classes, contracts, pull-out schedules, etc., etc. Currently, there is a tendency to select models, such as the Structure of Intellect, Bloom's Taxonomy, or adaptations of Montessori methods, and follow these as curriculum patterns.

It was the goal of the Astor Program to try to match a curriculum to the characteristics of its pupil population. This meant, first, consideration of the nature of the gifted learner and, second, an awareness of the many approaches possible. Our goal was to utilize any techniques that met our needs, modifying, adapting, creating, if necessary, those approaches that our pupil population dictated.

When we started, there were practically no guides to a curriculum for the gifted at the age level of children in the Astor Program. There were no studies to guide us as to how much or how little such children could master within the school year. Guided by our own experiences and the goals of our program, we developed our own broad plans.

For two weeks before the classes started, teachers met in training sessions with the director. During that time, we formulated a broad plan that was to serve as our guide in developing further details of the curriculum. Based on the philosophy of the program that the gifted child needs to learn early about himself and his interrelations with the universe, a four-faceted curriculum was outlined. Taking the child as the focal point, the curriculum asks the following:

1. Who am I? The Child in His Time Space.

The topic explores the child's identity in relation to himself, to his family, peers, co-workers, immediate social contacts, and also in relation to those who have lived before him and will come after him. It is a view of man in his social, sociological, historical space.

2. Where am I? The Child in His Geographical Space.

This topic explores the child's geographical location, in terms of his classroom, school, home, neighborhood, city, state, nation, and the universe.

3. What am I? The Child in His Environmental Space.

This topic explores the natural environment of plants and animals, and the child's interdependence with all living things.

4. Why am I? The Child in His Physical Space.

This topic explores the interdependence of the child and the physical constants of his universe: chemical relationships, physical laws, mathematical equations, etc.

These four topics formed the basic themes around which basic skills were developed, e.g., in reading, mathematics, scientific concepts, social studies concepts, art and music, and which gave rise to the special interest topics at the core of an integrated curriculum.

The philosophy of the Astor Program is that intellectually gifted children need to learn early "how to learn," to know how to find out for themselves. They need to experience joy and satisfaction in learning, with opportunities to share this joy with those of similar abilities. They need to understand themselves and their place in the world, and to develop multiple and flexible approaches to meeting the demands of life in the social, economic, and physical world in which they are and will be living.

The curriculum is goal oriented - with activities planned to achieve these goals. It is also directed to the future, insofar as it is possible for us to plan toward the unknown. Minutiae of the present are not stressed. Skills are developed which, hopefully, will have long lasting utility. Critical thinking skills, the ability to recall, analyze, evaluate, synthesize, generalize, infer, deduce, interpret, etc., are stressed in the activities planned. It is a complex curriculum, requiring much time for development.

The Differentiated Curriculum

The Astor Program is designed to provide intellectually provocative experiences for the gifted child in an emotionally and physically satisfying environment. The concern is with the whole child, whose development is not assumed to be uniform along all tracks. Although this should be the goal of any teaching program, for the gifted child this means a change in the curriculum patterns to which he is normally exposed.

It has been a tenet of early childhood education that children are to be taught only that for which they are ready. Thus, teaching is geared to the average child who, in kindergarten, is not ready to absorb certain academic experiences. The gifted child in this environment becomes bored and frustrated, as he waits for his peers to catch up with his level of readiness.

The Astor Program is highly individualized. It evaluates the child's skills and teaches him at his own level of readiness.* Thus, within one reading group one may find children whose abilities range from pre-readiness to grades 3 or 4 reading levels. Similar patterns can be observed in mathematics, language arts, and other curriculum areas.

Individualization *per se* does not produce a differentiated curriculum. It is necessary to adapt the teaching to the learning styles of a child, noting the characteristics of the gifted child - characteristics that require a minimum of rote, encouragement of intuitive thinking, acceptance of divergent solutions, encouragement of questioning and the sense of wonder, suiting the difficulty levels to the abilities.

*Teachers were expected to prepare a written observation of each child early in the school year. See Appendix 8.

In the Astor Program, there is a stress on developing thinking skills, the basic skills, the communication arts, civic and social responsibility. Interwoven with all learning is stress on affective development.

Meeting the Functioning Level of the Gifted Child

Probably the single factor that distinguishes an Astor Program class of pre-kindergartners and kindergartners from the regularly observed groups is the intellectual level at which both teachers and children function. This is frequently evidenced by experience charts which are maintained at child eye level and which contain the words that children have encountered in their readings or classroom discussions and which require explanation or further research. These words find their way into the children's later discussions. They reflect a concern with precise vocabulary, avoidance of simplistic euphemisms, and recognition of the fact that the intellectually gifted child enjoys acquiring new ideas. Obviously, each new word acquired represents a clue to a new concept, idea, or experience.

Teachers are instructed to conduct their classes at a mature vocabulary level. They are advised that pupils will stop them if they do not understand, and they do. More importantly, the teachers find that they themselves can function at a higher level when they are not constantly translating their thoughts into what is often considered appropriate kindergarten vocabulary or, as the children call it, baby talk.

The Basic Skills. There are several periods provided each week for formalized lessons during which the teacher can assess pupil progress in basic skills required in reading, other language arts, mathematics, social and physical science. During these formal periods, pupils can practice mathematical combinations, letter recognition, or more advanced skills, and the teacher is able to provide guidance for pupils according to need.

A statement should be made here about the subject of reading. When one of our teachers commented to a newcomer to the program: "Oh, I don't teach reading. The children just learn it themselves!", the newcomer was totally overwhelmed. "But what about phonics?" she asked. This actual conversation reveals two interesting points. The Astor Program teacher did actually teach reading, but the process was so much more natural than the conventional curriculum decrees that she "felt" that she wasn't actively teaching. The newcomer demonstrated by the subject of her question how we have come to distort the entire subject of teaching reading.

In the Astor Program (9), the subject that is consciously taught is "communication", the transmittal of information between people. The stress on conversation, language experiences, high standards of vocabulary usage, frequent use of experience charts for listing the many new ideas (represented by the printed word on the chart) the teacher's frequent reading aloud to the children, the availability of many books of multiple difficulty levels, all help to introduce the child to the world of reading. Children, especially the gifted, learn by sight recognition of whole words. The well-known "look-say" method is very effective with them and it is the basic technique used in the Astor Program. Phonics are merely aids in pronouncing new words one has not met before, but are never used to "teach" reading. The analytic process follows the acquisition of reading ability. It does not precede it. Apparently, our system works, as our test results show, most effectively. (See Chapter 7.)

The Thinking Skills. The goal of all lessons was the development of the thinking skills. All teachers were required to prepare general lesson plans in all the curriculum areas, phrasing all activities in terms of a thinking skills vocabulary. They had been provided with lists of words and activities which reflected the various levels of thinking skills vocabulary. In preparing their plans and writing their questions, they were required to note the representation of activities that required higher levels of thinking, and not limit themselves to the usual recall or classification, which tend to dominate young children's activities in regular classrooms. (Appendix 9,10,11.)

The Special Interest Topics. Each class actually became involved in a coordinated curriculum, as it pursued special interest topics that inevitably touched on all areas of the curriculum. These special interest topics could be pursued for varied lengths of time, from one week to months, depending on their scope and the interest they sustained. Some of the special interest topics the pupils and teachers chose were: "Dinosaurs," "Endangered Species," "Consumer Education," "The Maurice Sendak Books," "Beginnings of Man," "Architecture," "Music," "Mystery Stories," "Art of Making Books," "Propaganda," etc.

Topics originated with pupil special interests or as a result of teacher involvement with some particular study. One of our teachers was a natural scientist. She was able to share her enthusiasm for this area with the children and several exciting studies developed, such as bird watching, transitions of the seasons, a study of the planets, etc. A brief unit on whales grew out of a visit by an Arctic explorer, who was known for his work on how whales communicate. The study of endangered species developed from a pupil report concerning a pregnant whale in the local zoo. The study of

architecture developed as a result of one teacher's special interest in New York City's structures and the fact that two parents were architects and had spoken to the class about their work.

The Astor Program capitalized on every skill and interest that became available to it. In selecting teachers, special attention was given to their personal interests and hobbies, in the hope that they could contribute to classroom activities. Parents' skills, vocations, and experiences were utilized. (See Appendix 12 for questionnaire.) Talents of visitors who were willing to share their work with us were called into play. No opportunity was allowed to slip by. The world was our textbook, and the children thrived on its resources.

Linking the special interest topic with developing thinking skills and the basic skills, together with presenting a broad spectrum curriculum, required deft planning by the teachers. They viewed it as a challenge, and found that it was the natural way to go. It was inevitable that the choice of almost any topic would eventually involve a need for mathematical applications, understanding of many areas of the social sciences, scientific applications, and much reading and research. The teachers were encouraged to summarize their planning for these special interest topics, which led to the development of several in sufficient detail for sharing with the educational community. These are part of a pending publication on the curriculum of the Astor Program.

Toward the end of our third year of operation, we asked teachers to give us some examples of the work they did in the classrooms. Listed below are selections from their replies to an item about the special topics.

Item: List the special interest topics used in your class this year. (A sampling of responses. Appendix 13.)

NOTE: A special interest topic was one on which the class spent from a few weeks to a few months of study, integrating all curriculum areas.

Level I

Dinosaurs

Planets, Space

Chinese Culture

Reproduction (Egg hatching)

Our Bridge - Study of Structure Near School

Animal Adaptations

Nutcracker Suite

Homes and Shelters

Reptiles

The Insect World

Change in Our Environment

Light

Ichthyology

Archeology - Time sequence through a study of the earth's layers

Energy - From sun to man

Bedouin/Eskimo/Indian Communities

The Senses - Illusions, handicaps and aids for improving them

Transportation - Wheels, hidden and obvious

Individualized Science Projects on Change, i.e. metamorphosis of insects

Human Body - Anatomy and uses of x-rays

Consumer Education - Cooking, shopping, comparative pricing

Winter Fun - In stories, pictures, art

Fossils

Weather - Effects on the community

Indian Life and Customs

Endangered Species - Whales

Birds: Identification and Habitats

Level II

Getting to Know Me

Animal Habitats

Special Needs for Survival in City and Country

Wonderful, Wonderful World of Fantasy

Nutcracker Suite Project

Chinese New Year Project

Problems of Pollution and Solutions

Roots - About Our Ancestors

Career Education

Star Wars - Science Fiction

Conservation

The Human Body

Comparison of Mythologies - Greek, Roman, and Norse

Level III

Our Senses

Folktales of Foreign Lands

Idioms in Daily Speech

Planets and Space

Wolves - An Endangered Species

Plastics

New York City - I Love It!

Food Groups and Their Effects on Our Bodies

Astor's Believe It or Not!

Basics of Journalism

Country Dancing

Art History

Inventions - Patents, Careers, Solving Problems

The Astor Program produced several curriculum bulletins which described the origins and development of their special interest topics. Among these were: "Consumer Advocacy," "The Beginnings of Man," "Whales, An Endangered Species," "Architecture," "An Oral Reading Experience: The Serial Story," "Dinosaurs," "Music in the Air," "Two Hundred Years of Democracy." It was part of the program plan that teachers have time to prepare a product related to their activities. This is to be recommended as a valuable procedure for any innovative program.

Field Experiences

The development of these and other topics required many supplementary activities. Among these were class trips. Their number and nature depended on the location of the class. In Manhattan, where transportation is easy and cultural centers are quite accessible, our classes were able to make an unusually large number of field trips, lasting from one hour to a full day. One Level II class made 27 field trips within one school year. All classes were able to make at least five, but most did make about eight or ten. Their destinations were as varied as their special interest topics. The sole requirement for approval of a trip was that it be related to a special interest, a major current event, or a topic of study in the classroom. Preparation and follow-up were expected in all cases.

TRIPS

A partial listing of the trips or out-of-school activities undertaken by the children at each of the levels follows. (Appendix 13.)

Museum of Natural History - Bird Study, Dinosaurs, Hall of Gems, Reptiles

Hayden Planetarium - Planets and space

Traveling Playhouse - "Aladdin," Greensleeves"

Aquarium - Whales, sharks, ichthyology study

New York Public Library - How to use the library

Madison Gallery - Clown paintings

Metropolitan Museum of Art - Impressionists, Egyptian Hall, special course on art, symmetry

Whitney Museum - Duane Hanson Exhibit of sculptures, modern masters

Bronx Zoo - Animal Life and a Good Time!

World Trade Center - Knowing the City, Architecture, Geography

Exhibit: New York Experience! Knowing the City

New York Historical Society - Knowing the City

Brooklyn Academy - Operetta

Rockefeller Center - New York as a tourist center

High Rock Conservation Park - Interdependence in nature

Movies: Charlotte's Web
Black Beauty
Oliver Twist

Central Park - Walks, bird watching, changing seasons, study of "adopted" tree

Neighborhood Walks - Knowing the community

Bus Headquarters - Transportation, city planning workers

Central Post Office - Community services

Local Policeman - Community services

Fire Station - Community services

Police Station - Community services

New York Botanical Gardens - Natural science

Kodak Photo Gallery - Transportation study

TV Studio: Romper Room - Understanding media, appearance in broadcast

Pickle Factory - Division of labor

Uneeda Doll Company - Specialization of labor

Hall of Science - Metric measurement

Museum of the American Indian - Study of differences and similarities of cultures

Erasmus High School Concert - Choral Music

Abraham and Straus Easter Animal Show - Farm animals, hatchery (reproduction)

Paper Bag Players - Stage performances - mime, illusion, costuming

Local Supermarkets - Consumer education

Beach at Northport - Seashore animals

Plum Beach - Exploration of a beach habitat

North Shore Science Museum - Chemistry demonstrations

Lincoln Center - Knowing the City, architecture

South Street Seaport - Study of city geography, harbor facilities

Guggenheim Museum - New York City architecture, De Koonig art

Future Ideal Toy Factory - Plastics

French Restaurant - French culture, use of language

Town Hall - Ballet, choreography, careers, art appreciation

The foregoing list is not complete, but it does give an idea of how much the children were involved with the life and culture of the city. Classes obviously visited centers for varied purposes. These activities serve to illustrate our concern with total immersion in the learning process.

Beyond the Basic Curriculum

We had a practical concern that children must cover the basic curriculum as suggested by the city. This, of course, was accomplished in much less time than would be required in an average classroom. Our goal, naturally, was to advance beyond the conventional classroom fare. When we asked teachers how much they had been able to explore beyond the basic requirements in particular curriculum areas, they reported the following in mathematics, social sciences, science, and literature.

Mathematics

We asked teachers what mathematical concepts they had developed that went beyond the prescribed curriculum for their grade level. They listed the following (a sampling): (Appendix 13. See also Appendices 14,15,16 for checklists of work covered in prescribed curriculum.)

Level I

Estimation - with pumpkin seeds, jelly beans, shapes, rocks, etc.

Logical Properties - Attribute blocks

Isosceles Triangle - Properties

Prediction - Graph surveys "How many days will snow remain on the ground?"

Areas, Perimeters - Comparing sizes of city boroughs by using centimeter cubes

Shapes - Pentagon, hexagon, heptagon, octagon, oval, diamond

Probability, Statistics - Developing frequency distribution charts, computing odds, "If you have 31 ice cream flavors, how many two-scoop ice cream cone combinations are possible?"

Graphing - Learning about x,y coordinates, plotting plant growth

Logic - Attributes of sets, overlapping sets, more than one attribute

Metrics - Liter, meter, gram, etc.

Geometry, Shapes - Tangrams

Clock Arithmetic - Adding and subtracting hours

Number Systems - Binary

Level II

Multiplication Concepts

Graphing - x,y coordinates

Roman Numerals

Comparison and Analysis

Probability Statistics

Logic

Bilateral Symmetry

Negative Numbers

Estimation

Level III

Musical Notation and Fractions

Number System - Base 5

Number Systems - Egyptian, Roman, Arabic

Mathematics in Daily Living

Symmetry

Geometry

Supermarket Shopping

Multiplication and Division - multi-digit

Social Sciences

In the Social Sciences, the teachers listed the following topics of study beyond the regular curriculum. (A sampling of responses. Appendix 13.)

Level I

Northwest Indians - totems, potlatch ceremonies

Civil Rights - Martin Luther King

Ethnic Diversity in New York City

Map Reading

People: Alike and Different

Foods of Many Lands

Communication - sign language, sound

Children Around the World

Communities - Eskimos, Early Man, American Indian

Transportation - wheels

Our Working World

Families Around the World

Current Events

Tracing Travel Routes

Level II

People's Jobs

Big City Living

The Election Process

Pilgrims' Adaptation to This Environment

Symbols

Values, Self-Awareness

Basic Needs of People

American Customs

Level III

Careers - Non-sexism in careers and job titles

Cultural Similarities and Differences

Consumerism

Anthropology

Archeology

Evolution of Man

History Workshop - Homes and travel

City Living Around the World

Science

Teachers were asked: "What broad science concepts did you cover this year? Following is a sampling of responses by levels. (Appendix 13.)

Level I

Magnetism

Gravity

Earth in Space

Environmental Health

Fossils

Air

Reproduction

Animal Adaptations to Habitat

Plant Development

Sound

The Solar System

Reptiles

Insects

Colors

Light-Shadows

Birds' Nests

Ichthyology

Microscope

Change in Nature

Evaporation and Condensation

Water - water cycle

Level II

Natural Sciences in New York City

Wheels - Uses, other than transportation

Roots - Trees, plants, teeth, vegetables

Gravity, Balance

Endangered and Extinct Species

Amphibians and Reptiles

Nutrition

Sound

Structures - architectural concepts

Birds - from dinosaurs to birds

Skeletons - differences between man and animal

Level III

Methods of Scientific Investigation

Body Science

Basic Needs of Man

Origin of Man

Inter-dependence of Plant and Animal Life

Classroom Gardening

Electricity

Senses

Literature

An important aspect of the Astor Program was a concern with the appreciation of literature. Classes were provided with selected books in fiction and non-fiction. Teachers were encouraged to read aloud to the pupils and to make a special study of particular aspects of literature.

We asked teachers to list some of the books that had been successful with their Level I classes as "serial" reading, covering two to three weeks of work. Following are some of the books they found to be "excellent," "successful," "big hits." (Appendix 13.)

The Furious Flycycle - Jan Wahl

SOS Bobomobile - Jan Wahl

The Cricket in Times Square - George Selden

Tuckers Countryside - George Selden

Lafcadio - Shel Silverstein

The Little Prince - Antoine de Saint Exupéry

Charlottes Web - E.B. White

Wizard of Oz - L.Frank Baum

The Little Go Exploring - G. Burgess

Pinocchio - Carlo Collodi

Just So Stories - Rudyard Kipling

Stuart Little - E.B. White

Teachers also reported that they used a great deal of poetry. In one class, they read about one hundred fifty poems in an eight-month period. The selections came from anthologies and authors of various levels of maturity. Children enjoy humorous poems, but also can well understand the feelings and overtones of many more serious works.

Developing Individual Skills, Talents, and Interests

There was ample opportunity for encouraging the special talents, interests, and skills of individual pupils. In a group such as we had gathered, with their exceptionally high intelligence, there were many pupils who displayed abilities that were unusual even for this group. For example, there was one youngster who was unusually capable in mathematics, even though he frequently displayed an amusing lack of mastery of simple arithmetic combinations. His teacher helped him to pursue his interest in trigonometry (at age 7½) but also helped him to discover the necessity for mastering a multiplication table. Another little girl of four and one-half was exceptionally talented in drawing, and was permitted to indulge her passion for making vivid illustrations for every event that occurred. Naturally, the art teacher helped her to become familiar with various techniques and media, beyond her childish crayons. One little boy was quite talented musically. He contributed several original melodies to class plays and eventually wrote a brief "opera" with libretto which he presented to the director as a gift. Of course, at appropriate times, the classroom piano was at his disposal for "tinkering".

A Concern for Character Development and Personal Growth

Uppermost in the minds of teachers and administrators of the Astor Program was the fact that we were dealing with children, who had the right to enjoy their childhood, to be happy as individuals, and yet who, like all individuals, had the responsibility of acquiring constructive social attitudes. Even though the curriculum was a strongly academic one, time was always found to discuss matters of psychological or social importance to the child or class. Death in the family, a pending hospitalization, an act of aggression against a playmate, a burst of unexplained tears, any of the many concerns that reach children as well as adults, became subjects of class attention, teacher concern, and if appropriate, of class discussion.

Stress was put on cooperation, a concern for one's fellow man, an understanding of one's own worth as well as the rights of others. It is a source of singular satisfaction to have visitors note the cooperative and loving spirit of Astor Program classrooms, where there is a tender concern for each one's needs. The children are happy in this environment, as is readily seen when one observes them in the classroom.

Although these observations have applicability to all children and all classrooms, there is this element of difference that should be noted. The Astor Program takes advantage of characteristics that are known to be descriptive of the superior intellect. It is known that the intellectually gifted have a strong sense of social justice, are insistent on fairness, are generally cooperative and caring, tend to be personally honest. They are extremely sensitive and self-critical, sometimes setting unreasonably high standards for themselves. They need reassurance of their worth and acceptance by an unaccepting society that cannot understand their intellectual deviance. Instead of crushing the favorable aspects of their general make-

up and ignoring their special weaknesses, the Astor Program has tried to bring all the positive elements into play to help these pupils to develop in the most constructive manner possible.

Teachers listed for us some of the topics relevant to character development and growth they discussed in their classes. A sampling follows: (Appendix 13.)

Discussion Topics

Respect for Living Things

Man's Continuing Search into the Unknown (following a report of a space probe)

Inventions - Evaluating whether they are or are not beneficial to mankind

Social Responsibility - helping immigrants to our city

Sympathy - Empathy - what they mean

Clueing into Facial Expressions

Importance of All Kinds of Work

Appreciating New York City's Ethnic Diversity

Anger is Acceptable - solving problems

Acceptance of Emotions - happiness, sadness, fear, anger, love, hate

Nightmares

Unkept Promises

Respect for One Another

Honesty

When you Make a Mistake - how to react

Respect for Private/Class Property

Aggression - alternative solutions

Cooperation - doing what you may not like to do at times

Rules - the need for codes of behavior

Sharing - with those who have less than we do (UNICEF)

Friendship - what it means

Responsibility for Your Own Behavior - don't blame others

Independence - being able to do things for yourself

There were many occasions for promoting positive self-concepts. Children were praised, but neither lavishly nor unjustly. No child was ever to be publicly humiliated. Difficulties were resolved privately; praise was shared publicly. Teachers reported discussions of these topics, which helped children understand and accept themselves and view themselves as worthwhile people. (Appendix 13.)

Self-Concept Topics

The "Specialness" of You

Recognizing Our Differences

Traits We Appreciate in Others

Everybody Is Good at Something

Respect for Our Own Ability - what we're good at is important to us

Helping Each Other

Child of the Day (or Week)

How I Have Grown - physically, emotionally, in acquiring independent skills

Contributions I Can Make to Others

Pride in Our Own Work

I Can Do Something Better Now Than I Used to Do

Positive Stories about Each Other

Using Calming Moments to Feel Good - music, poetry, sharing, helping

Feelings - loneliness, death, love, caring

Using Literature to Understand Ourselves

Magic Chair - if you sit on it you can be anyone or any place you want

Something That Makes Me Sad (Happy, Sorry, Cry, Angry, . . .)

The foregoing, and many other topics provided occasions for discussions in the classroom.

There was also an awareness that silence is a form of communication. Children were not penalized if they occasionally withdrew to a quiet corner to be alone. Daydreaming was "legal" in Astor Program classes, provided it was not carried to extremes. In other words, the "person-ness" of the child was respected and cherished.

The Curriculum in Action

We made it a policy of the Astor Program not to speak about theoretical activities, but to share the results of actual experiences in the classroom. Early in the program, we were faced with practices that reflected very low expectations for a gifted child. When suggestions were made for introducing more advanced materials, we were greeted with much skepticism. Even the teachers were astounded by the advanced level of these children's capacities. We, therefore, assumed as one of our obligations the necessity of demonstrating what actually could be done in a classroom of very gifted children. Thus, all activities reported here reflect actual experiences. Our curriculum materials usually indicated how much time was spent on a topic and exactly what activities were carried out.

Implementing a curriculum of this type in coordination with the specific objectives outlined required careful planning and preparation. Classroom management had to be well coordinated so that all children would receive the full benefits of the program. For an outline of the daily schedule see Chapter 3.

The program functioned on two planes: First, there was a concern for teaching the basic skills necessary for progress in learning. Second, there was the goal of "pursuit of knowledge" to satisfy needs, special interests, personal enjoyment. The school day was planned so that learning could proceed on both planes.

Children were grouped so that they could be rotated through the planned sessions of the day. They worked on developing basic skills in relevant curriculum areas in small groups. The topics of these sessions were based on teachers' observations of pupil needs as they worked on the class special interest areas and on a general evaluation of each pupil at the beginning of and during the school year. (Appendix 8.)

Teachers seemed to find this approach stimulating and exciting. During our monthly meetings,there never seemed to be enough time to share the many activities they developed with their classes. They enjoyed relating episodes, pupil performance, and approaches they found successful. Frequently, they were too modest or even unaware of how exceptional their work was and needed encouragement in telling their colleagues about their work.

An Astor Program Day*

Under the ideal Astor Program Plan, there usually had been two teachers in the room, sometimes three when a specialist was available. As the program moved into tax levy funding, the staffing changed to a teacher and a paraprofessional (usually a licensed teacher who had not been appointed). Pupil-teacher ratios ranged from seven or eight to one up to fifteen to one.

*This section is based on a presentation before the Northeastern Kindergarten Conference, Lesley College, Boston, Massachusetts, November, 1977.

Daily schedules for beginning classes (Pre-K-K) varied in length depending on local preferences. The ideal was a five-hour day. Under public funding, it has been reduced to a four-hour day, with two schools following the Board's more conventional morning or afternoon sessions that are two and three-quarter hours in length. It should be noted that flexibility in planning and execution is crucial to the survival of programs to be implemented in diverse communities - and New York City does have tremendous diversity.

The day begins with children coming directly to the classroom. They put their outer clothing away, greet their friends and teacher(s) casually, and keep themselves occupied with informal activities. They chat with friends or the teacher, they visit with animal pets, observe their growing plants, play games such as chess or checkers while others watch, sprawl on the floor to read a favorite book alone or by sharing it with friends. They have been taught to maintain a low noise level, to respect each others' rights to quiet and privacy. Guests are impressed with the low tone of the class, the sense of order and quiet, the underlying organization and structure, the use of time and the absence of random, undirected behavior or activity. There is a feeling of purpose and direction in all pupil behaviors.

At about 9:00 a.m., in response to a low key signal from the teacher(s), they gather in a wide circle, sitting on the floor, for their morning discussion. ("Show-and Tell" is not used, except in response to a child's desire to share something special.) Points stressed at discussion times are: (1) communication of experiences with each other (children face each other when speaking, not the teacher); (2) improvement of speech and public speaking patterns; (3) respecting the rights and feelings of others by listening quietly and with-

but ridicule; (4) sharing feelings, emotions, and experiences that help toward social and emotional growth and encouraging positive self-concepts; (5) stimulating a wide range of interests, some of which may become a springboard for further class work. Discussion time is an important part of the day for all, and may recur at other times of the day.

Today, the class is saddened by the death of one of the gerbils. Mark observed the cage when he came in and the teacher confirmed it. The children talk about the gerbil and discuss the probable cause of death and the disposal of the body. Betty announces that her grandmother died last week and that she was put in a box, a "coffin" (new word). Death becomes a general topic of discussion as children suggest, often only indirectly, their fear of this unknown. The teacher encourages their open statements and she tells them she will read them a story that "may help us understand death a little better." There is no pattern. The discussion is free flowing, but the teacher is careful to note individual responses so that distress is minimized. With the characteristic resilience of childhood, a new topic emerges as Timothy announces that a whale at the local aquarium is pregnant. "I went there Saturday with my father," he explains. The teacher is glad to develop this happy theme, and suggests that the children follow the news reports about the whale. Later this will develop into a special interest topic on endangered species and will form the core of several weeks' activities.

The class now breaks up into three or four groups. This is Time I or Session I, lasting about forty minutes (two twenty-minute modules). Under our best conditions, three teachers are present, a specialist in art, music, or foreign language and two regular classroom teachers. The groups receive teacher guidance in the specialist area and in basic skills development in

reading, mathematics, science, or social living. The fourth group pursues individual interest activities. There are three such sessions daily, so that each child receives equal time in each area. The groups range in size from six to ten pupils, and are not arranged by ability levels.

When there is only one teacher, or one teacher with a paraprofessional, the number of groups cannot exceed three. The teacher works with one group. A second group may be engaged in reading or research for a special interest topic or in free-choice activities from one of the many interest centers, and the third may be involved in arts, crafts, or play with blocks or other games. Usually, in such situations, teachers are advised to plan their class lay-out so that children can profit from "incidental" learning. Children playing with blocks or engaged in a craft activity are located near a center where the teacher is developing a skill in mathematics, science, reading, or social science. They can "listen in" if they wish, and do, in fact, acquire a good deal of "incidental" learning and reinforcement of previous learnings in this way. Teachers report that they have found this to be a worthwhile practice.

Time I is followed by snack time, during which the children share chores such as setting their tables, distributing snacks, pouring juices, cleaning-up. They chat with each other and the teachers. Sometimes they listen to classical music, or the teacher may read poetry. Mostly they are expected to practice good social manners and to learn the graces of socializing.

Time II repeats the pattern of Time I. The children know which sessions they are to attend by charts which use symbols and colors to guide them.

Transitions are orderly and waste a minimum of time. Teachers advise children as time periods are ending so that they can complete their tasks. Except for deliberate pokiness, children may complete a task before making a change, and this is considered an acceptable behavior. Occasionally, a child is permitted to stay with a work task for a longer period so that he may complete a special activity. The time sessions are merely guidelines, and all planning is flexible and includes a readiness for change.

A twenty-minute time module just before lunch is devoted to poetry, singing, discussion, listening to records, or any other "leisure" time activity.

On the five-hour daily schedule (8:50 a.m. - 2:00 p.m.), children have lunch in school, and their teachers alternate in eating with them. Again, the purpose is to help the children develop social living skills, the art of conversation and communication, and to know each other and their teachers in a "social" situation.

The lunch hour is followed by outdoor play (required daily). Time III follows, repeating the morning patterns. The last module of the day is devoted to storytime, when the teachers read to the children.

Alternative activities are built into the schedule during the week, so that special interest activities can be pursued for prolonged periods. Thus, on Wednesday perhaps, all forty-minute sessions may be devoted to development of a special topic, which coordinates all curriculum areas and which establishes some of the activities to be pursued in detail during sessions devoted primarily to stressing basic skills growth.

Underlying all curriculum activities is a stress on developing thinking skills. Teachers write their lesson plans in the language of the thinking skills and are expected to work toward intellectual growth in these areas throughout the day. Children are expected to reason, to base generalizations on facts, to predict from the known to the unknown, to identify and solve problems. They are encouraged to exercise their creativity in all intellectual areas, seeking unusual relationships, special insights, new points of view.

Vocabulary growth is stressed by the frequent use of experience charts on which the teacher prints the special vocabulary they encounter as they go along. It is not unusual to find charts with words listing the parts of the body, i.e., esophagus, villi, intestine, valve, neurons, etc.; or words associated with a special interest topic, i.e., astronomy, planet, orbit, sphere, vernal equinox, rotation, eclipse, etc. Teachers are instructed to use precise vocabulary, without euphemisms or "baby talk."

Each class selects a special interest topic for study over a period of weeks or months. Much of the work then revolves around this topic. The children prepare reports, books, plays associated with the topic and they take trips to appropriate places to research their work or reinforce their learnings. One class took twenty-seven field trips, made possible, in part, by their strategic location in Manhattan, the focus of cultural activities in New York City.

As they move into the upper primary grades, one to three, and the day is lengthened, the children benefit from teacher skills and specialties. Teachers exchange classes and/or groups to share special interests or to conduct "clubs" in astronomy, chemistry, music, ecology, art, the human

body, etc. Sessions may be lengthened and the day's activities move from the planned schedule to independently planned work, with the teacher acting more as an individual facilitator and guide than as a teacher of the group. The children know they must work in certain prescribed areas and must complete such work before moving on to "elective" activities. However, the order and sequence in which they perform these tasks is up to them. This requires very close supervision by teachers and carefully planned activities.

Results of these plans are most gratifying. The children are cheerful and happy. They have made marked advances in achievement. They have acquired good self-discipline and habits of cooperative behavior. Their parents report that they "love to learn" and are acquiring skills in 'how to learn." Parent satisfaction with the program is evidenced by the fact that almost all who have left have done so reluctantly, because of personal circumstances, such as moving or transportation difficulties. They tell us that children are unhappy when they have to stay at home and note many positive gains.

The children's reactions are generally very positive. Subjectively, they seem very happy, a statement supported by parent reports, visitors' comments, and our own notes, perhaps prejudiced, but nevertheless deduced from our classroom observations. In fact, an analysis of data gathered from 1974 to 1977 shows rather dramatic and very positive gains on all fronts. The results of these analyses are reported in Chapter 7.

7 THE RESULTS: DID IT MAKE A DIFFERENCE?

There are those who feel that a gifted child will thrive in any school situation. They believe the child will learn and master the curriculum content simply because he is gifted. They are strengthened in this belief by the superior performance of many gifted youngsters for whom no special provisions have been made. The question that is not addressed by this approach is: "How much more might the child have learned if special provisions had been made for him?" What did Astor Program children gain by the special program designed for them? For answers we must look to both subjective and objective data. These include observations by school principals and parents, as well as results of standardized achievement tests in reading and mathematics and a scale of attitudes toward aspects of schooling.

THE SUBJECTIVE DATA

The subjective data we report here are derived from questionnaires completed by principals of the participating schools and by parents of the pupils. From each source, we can obtain insights into those intangible factors that are considered as important as the more objective results to be derived from tests.

The Principals' View

We asked principals whether they believed Astor Program children would have fared as well in a regular classroom as they did in the Astor Program. The unanimous response was "No." All believed that the Astor Program made a real and favorable difference. (Appendix 4)

The Parents' View

Since it was parents, in particular, who protested that school systems were not meeting their gifted children's needs, their opinions are of utmost importance. How did Astor Program parents view their children's education under the special program? When asked whether the Astor Program should be continued the parents were unanimous in their response, a resounding "Yes!"

More than one-third the parents of Astor Program children wrote unsolicited letters in which they expressed their personal satisfaction with the program. These letters form a treasured collection in the director's files. A sampling of their comments follows:*

SAMARIE'S PARENTS

"It needs something more than words to express what the Astor Program has been doing to our daughter. We are just trying to put into words that intangible magic the program has worked on her. . . .

"Her reading skills are growing fast. We are very pleased when she reads, writes and spells the words that are supposed to be beyond a child of 5. She has grown much more inquisitive now than she ever was. This must be the magic wand of the Astor teachers behind this thirst to know more. May their magic grow stronger and stronger!!! . . . .

"We are often left aghast at the paintings and drawing she does in the school. It sure is the outcome of Astor training. Having seen her growing from finger painting to water colors via crayons, we often wonder, what next? All because of the Astor Program, thanks again!!! . . . .

"Elation is the one word to sum up our feelings when we see all the kids mingling with each other, appreciating each others' work. They have received exposure in the newspapers and some have even hit the T.V. May God grant more power to this Program replete with love for each other!!!"

*All pupils' names have been changed.

MARY'S PARENTS

"My husband and I have witnessed an amazing change in her development over the past months. She has become extremely verbal, self-confident, mature, independent, and orderly. She has assigned herself chores at home, loves homework assignments, is speaking French, putting on plays, sings and dances, writes stories, draws, makes exhibits, but most of all she is happy as can be and looks forward to school each day with eager anticipation. . . ."

TIMMY'S MOTHER

"Timmy has only been enrolled for a short time, but already he's showing tremendous growth in his reading and reasoning abilities. . . .

"He brought home his workbooks over the holiday and I was most favorably impressed with the materials used. By taking advantage of the many opportunities the program offers for parental involvement, I have also been able to observe the class as a whole, and I am very pleased. I could not wish for a more stimulating environment nor a more varied, exciting peer group. . . .

"In addition, the dedication and personal warmth displayed by all the program's teachers before, during, and after regular class hours have made a strong and decidedly favorable impression. . . ."

CANDY'S PARENTS

"The creation of a program for the gifted children has been long overdue. Candy's brothers have been faced with boredom, frustration and teacher resentment for most of their elementary school years. Skipping them from first to third grades did not help the problem - they continued to be bored in the higher grade. Acceleration is not the answer; gifted children need a special program with other gifted children to make a challenging environment. . . .

"The Astor Program has given us hope that Candy will not have to experience her brothers' frustrations in elementary school. She looks forward to going to school and comes out exuberant. She is delighted with her teacher, her classmates and herself because of the learning experiences and environment to which she is exposed. Please do not permit this to be taken away from her. . . ."

TERRY'S AND SARA'S MOTHER

"Terry began the Astor Program in February of this year. Within a period of a few weeks I began to see a beautiful change take place. My son became much more articulate. His vocabulary practically tripled in this short span of time. His mind seemed to open up to the world around him. He began "experimenting," as he so aptly expressed it. The knowledge he has gained is particularly noticeable in the areas of the alphabet and numbers. . . .

"All of the above is quite remarkable in itself but there is something even more wonderful that must be added to this to complete the picture. Terry has become aware of himself and his own capabilities. He has gained so much confidence that he tackles things which would have, in the past, turned him off. He has come to accept the fact that he is bright and can relate to his sister who is also very bright but has the advantage of being older. He has learned to put his intelligence to work for him and I am sure that this lesson will follow him throughout his life. . . ."

TWO YEARS LATER (SARA AND TERRY)

"I cannot praise this program enough. Both of my children have blossomed emotionally as well as intellectually through the curriculum offered by the Astor Program. They have met learning with a new vitality and inspiration. The challenge the work presents keeps them interested and makes them want to learn more. Their minds, like the minds of all young children, are like sponges; the more they are offered, the more they absorb. . . ."

JONATHAN'S PARENTS

"This program has had such a profound effect upon my son, that I am willing to make any sacrifices necessary in order to assure its being continued. . . .

"I have only the highest regard for all the teachers, especially Ms. _____. She has aided me in handling Jonathan at home through methods employed in school. My son was not a very happy child before his exposure to the Astor Program. He was bored, frustrated and difficult to control. Other programs he attended catered to the normal child and he felt abandoned. It was only this program which has challenged his intellect while proving exciting and worthwhile to him. . . .

"The program is diverse enough to have his undivided attention everyday. He is anxious to begin each school day without coaxing. His reading has improved and his vocabulary has broadened. Most important of all, he has learned how to function socially and has respect for others and their opinions. . . .

"Words are really inadequate in trying to convey the impact this program has had on his life and therefore the lives of his family. All I can say is that the tension under which we lived prior to the program has practically disappeared. . . ."

MELINDA'S PARENTS

"What I most appreciate is the air of freedom and spontaneity in the classroom, although I know the planning that must go into each day. Given the wide range of interests among these children, the questions never seem to be put aside, but are somehow integrated into the total learning experience. . . .

"I must also add that the warmth and affection shown the children has probably contributed much to the success of the Astor Program. . . ."

At the end of each school year, we asked parents to return a questionnaire in which we asked questions specific to the children's learning and reactions to the program. There was a return of almost 99 per cent on these questionnaires. A report on these responses follows. (Appendix 17.)

Question: Have you observed any growth in your child's abilities in each of the following areas?

In Table 7-1 there is a summary of the parents' responses to this item by grade level and for all classes from 1974 through 1977. It also gives a breakdown in terms of specific responses, "Yes", "No", "No Change", and "No Data."

It is clear from Table 7-1 that an overwhelming majority of the parents noted pupil gains in all the curriculum areas at all grade levels. An impressive 92.3 to 95.1 per cent noted growth in vocabulary; 79.9 to 82.9 per cent noted gains in reading; 86.5 to 87.8 per cent, in use of language; 82.1 to 97.6 per cent, in mathematical skills; 70.7 to 84.6 per cent, in science skills; 80.8 to 90.2 per cent, in social living. The least number of favorable responses, though clearly in the majority, were in the areas of art (65.9 to 72.7 per cent), music (63.4 to 71.1 per cent), and foreign language (59.2 to 78.1 per cent). It should be noted that not all classes had foreign language teaching.

Table 7-1

PARENTS' OBSERVATIONS OF PUPIL GROWTH
IN CURRICULUM AREAS

All Classes: 1974 - 1977

(In Per Cents)

Level and Area	Yes	No	No Change	No Data
Level I (N = 363)				
Reading	79.9	4.7	14.9	0.6
Word knowledge	92.3	0.8	6.1	0.8
Use of language	86.5	2.2	9.6	1.7
Mathematical skills	82.1	4.7	11.0	2.2
Science skills	79.9	6.6	9.4	4.1
Social living	81.0	4.4	11.3	3.3
Art	72.7	8.3	15.7	3.3
Music	71.1	9.1	16.8	3.0
Foreign language	59.2	18.5	16.0	6.3
Level II (N = 136)				
Reading	88.2	0.7	10.3	0.7
Word knowledge	94.1	0.0	4.4	1.5
Use of language	87.5	0.7	8.1	3.7
Mathematical skills	88.2	2.9	4.4	4.4
Science skills	84.6	4.4	7.4	3.7
Social living	80.8	4.4	9.6	5.2
Art	70.6	10.3	16.9	2.2
Music	69.1	8.1	18.4	4.4
Foreign language	73.5	11.8	9.6	5.2
Level III (N = 41)				
Reading	82.9	4.9	9.8	2.4
Word knowledge	95.1	0.0	4.9	0.0
Use of language	87.8	2.4	7.3	2.4
Mathematical skills	97.6	2.4	0.0	0.0
Science skills	70.7	14.6	14.6	0.0
Social living	90.2	0.0	9.8	0.0
Art	65.9	17.1	17.1	0.0
Music	63.4	17.1	19.5	0.0
Foreign language	78.1	7.3	12.2	2.4

Question: How does your child seem to behave since joining the Astor Program?

In Table 7-2, there is a summary of the parents' evaluation of their children's reactions to the Astor Program classes as of June, 1977. A significantly high proportion of parents reported positive behavioral reactions by their children to the Astor Program experience. They describe their children as being happier (58.5 to 66.2 per cent), more sociable (55.9 to 73.2 per cent), more interested in schooling (62.5 to 73.2 per cent), enthusiastic about learning (80.5 to 86.8 per cent), eager to go to school (70.6 to 82.4 per cent), since joining the Astor Program. They tell us that the children seem to have a great deal to talk about (75.6 to 78.7 per cent), have acquired new interests (73.2 to 83.1 per cent), like their teachers (82.9 to 92.8 per cent), and their classmates (80.2 to 87.3 per cent), and have acquired many new friends (82.4 to 8[illegible] per cent).

It is the rare parent who reports a child who is bored, tired, withdrawn, restless, unhappy, indifferent, or weepy.

Thus, parents noted gains in both cognitive (Table 7-1) and affective (Table 7-2) areas of growth, and seem to be very well satisfied with the impact of the program on their children's education.

During 1977-1978, after control of the program passed to local school districts, we sent a follow-up questionnaire* to all parents whose children had been admitted to the program since February, 1974. This included those who had been transferred to other schools, as well as those who were still actively participating in classes we had started. About

* Appendix 18.

Table 7-2

PARENTS' EVALUATION OF PUPILS' REACTIONS
TO ASTOR PROGRAM CLASSES

All Classes 1974 - 1977

(In Per Cents)

Pupil Reactions	Level I N = 363	Level II N = 136	Level III N = 41
Happier	64.5	66.2	58.5
More at ease	44.6	45.6	46.3
Less restless	30.5	33.1	34.1
More sociable	55.9	61.0	73.2
More interested in schooling	69.4	62.5	73.2
Enthusiastic about learning	86.8	81.6	80.5
Eager to go to school	82.4	70.6	73.2
Gets along better with siblings	22.0	22.1	29.3
Has made some friends	89.0	82.4	87.8
A great deal to talk about	78.2	78.7	75.6
Has acquired new interests	77.4	83.1	73.2
Likes teacher(s)	92.8	83.8	82.9
Likes children	87.3	80.2	80.5
Bored	1.7	2.9	2.4
Tired	1.1	4.4	4.9
Withdrawn	0.6	0.0	0.0
Restless	2.8	4.4	2.4
Unhappy	0.6	0.7	2.4
Indifferent	0.8	2.2	4.9
Weepy	1.4	0.7	0.0
Does not like school	0.3	0.7	4.9
Dislikes teacher(s)	0.8	0.7	9.8
Dislikes children in class	1.7	0.0	0.0
Seems lonely	1.7	0.7	0.0

260 or more than one-half the parents who had participated in the program from 1974 through June, 1977 responded to this request for information.

We asked parents to list some of the long-lasting benefits to their children of participating in the Astor Program. Following is a brief list of the benefits that parents noted, in approximate order of frequency of mention:

- Love of learning - "A comfortableness with learning"
- Enthusiasm for school
- Increased self-assurance
- Positive self-esteem - acceptance of self as different and "knowing it's o.k."
- Introduction to a variety of subjects
- Broadened interests
- Opportunity to acquire bright and talented friends
- Being among intellectual peers is "expansive"
- Increased sociability
- Development of an open and spontaneous curiosity
- Exposure to exceptional teachers
- Ability to read fluently
- Awareness of and excellence in mathematics
- Greatly increased vocabulary
- Joy in teaching and learning from peers
- Ease in communication with other people
- Interest in nature and science, or art, or music
- Ability to work independently and to follow directions
- Capacity to follow through on projects and complete tasks
- Increased sense of responsibility

- Admiration and respect for abilities of others
- Compassion for others, cooperation
- Deep affection for classmates
- Increased language skills - extremely verbal
- Independent home reading
- Exposure to educational trips
- Increased ability to think
- Exposure to a creative curriculum
- Introduction to professionals in many career areas

Some individual comments were:

"His teachers have encouraged his uniqueness."

"He was introduced to school in such a favorable manner that his attitude toward it will always be positive."

"She was given the opportunity to attend school when she was ripe and ready, although not of age. She's been allowed to think and discover for herself. Learning is a joy rather than a drudgery."

"A willingness to look over and analyze new ideas and horizons, and the self-assuredness to tackle a new problem."

"He approaches math and writing assignments with gusto."

"Increased self-esteem and faith in his ability to take on a new challenge."

"He has never felt 'different' in a classroom situation."

"The Astor Program has helped us better understand his learning needs."

"A knowledge of things I would never have brought up to a five- or six-year-old."

"Ability to get along and empathize with children of different talents."

"The ability to think on his own and to reason out why he's reached a certain conclusion."

"Opportunity to socialize during school."

"Mainly he has had the benefit of a varied and enriched program with the individual attention and understanding necessary to build a foundation of self-assurance and curiosity and skills."

We also asked parents about special interests their children may have developed as a consequence of their participation in the Astor Program. A sampling of these interests follows (in order of frequency, N=260):*

Music (14.2 per cent)

Art (13.8 per cent)

Mathematics (13.5 per cent)

Reading (13.5 per cent)

Natural Science (11.9 per cent)

Overall interests and creativity (10.0 per cent)

Physical Science (5.9 per cent)

Creative Writing (5.4 per cent)

Foreign Language (4.2 per cent)

Poetry (3.5 per cent)

Vocabulary (3.1 per cent)

Dramatics (2.7 per cent)

Parents also cited individual interests, such as architecture, statistics, backgammon, sculpturing, puppetry, stamp collecting, gardening, chess, coin collecting, geography, and sewing.

*There was some duplication in parent responses, therefore, percentages will exceed 100 per cent.

THE OBJECTIVE DATA

Because of the nature of our population and financial limitations, it was not possible to obtain a control group to match our Astor Program pupils. Working with controls is usually quite difficult for all city pupils. Several factors act as deterrents. The first is pupil mobility, which requires the use of a control group four to five times as large as the experimental group if a statistically reasonable number are to remain available throughout the period of the study. A second factor, of course, is the cost involved in testing a large enough population to identify pupils of comparable ability. Third is a factor peculiar to the Astor Program. We had selected children who were in the top one per cent in intellectual ability. As we have reported elsewhere (Chapter 5) we identified a number who were so exceptional as to be scarce in any population and, somehow, we seem to have reached most of those who were available. After all, how many children can one hope to identify whose I.Q.'s are 4.0 standard deviations above the mean, with a probability of 28 in 1,000,000? We had 14 of these in the Astor Program.

Achievement Testing

Another problem in testing our pupil population arose from the fact that they were so young yet achieved at high levels. Within one class group, we had to use three and four levels of the tests, which one would not ordinarily administer in the lower grades. However, we found that children easily reached the 90th percentile and above on those tests designed for their age groups, leaving no room for growth on a post-test. The test levels administered to our kindergarten through grade three children included the following, and were used according to individual levels of performance.

MAT Test Level	Designed for Grades
Readiness	Pre-K
Primer	K.7-1.4
Primary I	1.5-2.4
Primary II	2.5-3.4
Elementary	3.5-4.9
Intermediate	5.0-6.9
Advanced	7.0-9.5

By using standard scores, it was possible to compare across all test levels. All our data are based on analysis of standard scores, with conversion to grade equivalents for explanatory purposes only.

Comparing the achievement of gifted children with the general population used in large-scale testing by the standardized achievement tests is not an appropriate procedure either, since it is known that scores for the population extremes are extrapolated and not too reliable. Adjustments have to be made in expectation levels for both low- and high-achievement groups.

An advantage of using the Metropolitan Achievement Tests was the fact that data were available on the expected standard score growth rates of above average groups (stanines 7, 8, and 9). Thus, it was possible to compare the growth rates of Astor Program pupils with the expected rates for high achievers, as reported by the test publisher.

The data used as a control reference were prepared by Michael D. Beck in a paper presented at the 1975 Convention of the National Council

on Measurement in Education. (1) Although the purpose of the paper was to establish growth expectancies for extreme populations, the data offers some illuminating information with respect to high-achieving students.

Beck's data are based on a representative sample of the total testing population used to standardize the Metropolitan Achievement Tests. The pupils are well sampled on the basis of median family income, per cent of Black residents, and median deviation I.Q.'s. His data are superior to the total normative sample in that he used the same pupils in his pre- and post-test data. The total population sampled was almost 15,000 cases, with about 2860 pupils in grade 2 and about 1650 in grade 3.

The most interesting aspect of Beck's data for our purpose was the growth expectancy for high achievers as compared with low achievers. Contrary to what one might believe, on a standardized achievement test such as the Metropolitan, growth expectancy for high achievers is considerably lower than for low-achievers. Although one may comfortably choose to ascribe the large differences in standard score expectancy to the effects of statistical regression, it is our feeling that this is not the whole story. Why should not a child who achieves at an above-average level on a pre-test make gains that are consistent with his superior achievement, rather than almost stand still while his less able peers make three to four times the score gains he makes? For example, on Word Knowledge the expected gain over six months for a low achiever is a mean of 13.8 standard score units. During the same period, a high achiever is expected to gain only 3.8 units. Our thesis is that the major reason for this phenonenon at the lower grade levels is not statistical regression but rather teaching regression. The bright child has "already arrived" and, generally, there is little concern with letting him progress.

at his own rate. He just "waits" while others catch up. It was this type of observation that led us to try to change what happened in the classroom for the gifted child.

How do gifted, high achievers fare when they are encouraged to use their maximum abilities? Let us examine the data available to us from the Astor Program classes. In order to make our data comparable to the Beck tables, we have made adjustments for elapsed time span between testings. Our testing covered a span of approximately nine months, while Beck's data are for a six-month period. By adjusting the average expectancy, we can establish a more valid basis of comparison.

All data reported here must be interpreted with utmost caution. We have tried to present the most conservative interpretations, but the underlying limitations of our data must be considered carefully. These are a few of the problems to be noted.

1. The pupils' abilities required use of tests designated for much higher grade levels in many cases.
2. Conversion to grade equivalents is almost meaningless, since the test levels used were usually beyond the range of the pupils' actual grade levels.
3. Beck's pre-post test interval was six months. The Astor Program pre-post interval was nine months. Beck's data have been "corrected" for this in our tables again based on theoretical rather than empirical information.
4. Beck's data begin at grade two. Most of our children had not reached grade two even by the post-test date. We have used the grade 2 figures given by Beck merely as an indicator of what might be expected at the early grade levels. We felt quite comfortable with this procedure, since the Beck rates for grades 2 and 3 are higher than for most other grades, thus forcing us to make an even more conservative analysis.

The two-stage analysis presented here does mitigate most of these problems and permits only the most conservative conclusions.

Stage I. The basic analyses, comparing testings over a nine-month school interval, is the conventional technique and can be interpreted without any of the foregoing qualifications. The following information will be helpful in interpreting the data presented in Table 7-3. The Level II children were technically in kindergarten or grade one at the time of the first testing. Since they were about equally divided in each grade, they may be considered to be at grade 1.4 on the average on the initial test. Level III children were in grades one and two, also about equally divided. On the average, their initial average grade assignment would be 2.4.

Table 7-3 presents a summary of the mean standard scores achieved by the Astor Program children in Levels II and III (1977) and about nine months earlier (1976) when they were in Levels I and II respectively. Three test scores are compared for the Metropolitan Achievement Tests (MAT), in Word Knowledge, Total Reading, and Total Mathematics.

In Word Knowledge, Level II pupils gained 13.8 score units and achieved at an average grade equivalent of 3.2. Their average initial grade equivalent was 2.0. Level III children also made significant gains from a mean initial score of 69.1 to a score of 78.1, and progressed from an average grade equivalent of 4.4 to 5.8.

In Reading, the Level II pupils had a mean score gain of 15.0, advancing from an average grade eqivalent of 1.9 to 3.1. The Level III children had a mean score gain of 10.8, advancing from a mean grade equivalent of 4.3 to 5.7

Table 7-3

STANDARD SCORE GAINS ON ACHIEVEMENT (MAT)
FOR PUPILS IN LEVELS II AND III
1976 - 1977 (9 School Months)

	N	1976 Mean	1976 S.D.	1977 Mean	1977 S.D.	r	p
Word Knowledge							
Level II Boys	47	43.6	11.90	56.6	11.75	.781	.0005
Girls	45	47.3	13.73	61.8	12.56	.707	.0005
Total	92	45.4	12.96	59.2	12.43	.747	.0005
Level III Boys	22	70.4	11.17	78.7	10.79	.929	.0005
Girls	21	67.7	9.67	77.6	9.27	.560	.0005
Total	43	69.1	10.55	78.1	10.09	.775	.0005
Total Reading							
Level II Boys	47	39.7	11.18	54.2	12.33	.790	.0005
Girls	45	44.7	13.78	60.2	11.29	.837	.0005
Total	92	42.1	12.77	57.1	12.21	.814	.0005
Level III Boys	22	70.1	13.81	79.1	12.79	.849	.0005
Girls	21	66.5	9.25	79.2	10.43	.843	.0005
Total	43	68.3	11.94	79.1	11.70	.833	.0005
Total Mathematics							
Level II Boys	41	35.5	7.99	56.2	13.62	.732	.0005
Girls	42	35.6	7.87	55.4	9.86	.674	.0005
Total	83	35.5	7.93	55.8	11.87	.699	.0005
Level III Boys	18	64.7	12.56	77.3	13.27	.822	.0005
Girls	18	64.1	10.89	77.9	10.04	.891	.0005
Total	36	64.4	11.76	77.6	11.78	.846	.0005

In Mathematics, the Level II pupils achieved a mean score gain of 20.3, advancing from an average grade equivalent of 1.5 to 2.6. The Level III pupils achieved a mean score gain of 13.2, advancing from an average grade equivalent of 3.3 to an average of 4.5.

Although it is reasonable to expect some achievement gains over a nine-month period of schooling, the data presented in Table 7-3 have important implications. All gains made, by both boys and girls, at both grade levels, are highly significant and consistently so for all the tests. ($p < .0005$) These were such dramatic gains that we carefully reviewed our entire procedure and double-checked our calculations. One rarely obtains such consistency in statistical data, as years of experience have demonstrated. Neither the computer nor our weary brains were at fault. The data are correct.

We are particularly pleased with the consistency of pupil performance over the test period. Higher-achieving children made gains "consistent" with their initial performance in most cases, as the correlations (Table 7-3, r) show. All of the correlations listed were statistically significant.

Thus we can reasonably conclude that Astor Program children made significant achievement gains in Word Knowledge, Total Reading, and Total Mathematics. This conclusion is consistent with the parents' observations of their children's gains in these curriculum areas.

Stage II. Would these gains have been statistically significant if the Astor Program children had been compared with an independent control group? Since we cannot use the general normative population, we have compared our data to a more appropriate group, Beck's high achiever nationally tested population. A comparison of the gains made by Astor Program children and this normative population is presented in Table 7-4.

The lowest grade for which Beck presents expected gains is two, and these are the bases of our comparisons. We do not hesitate to use these expected gains, since they tend to be among the highest for the lower grades that Beck reports. Thus, we are establishing a rather high standard for our children. Nevertheless, in all groups and over all tests, Astor Program children exceeded the expected national norm gains by a good margin. Therefore, if we had any doubts about accepting our conclusions from Table 7-3, they would have to be dispelled by the comparisons with Beck's data in Table 7-4.

But these tables contain some rather interesting information that goes beyond the analysis of achievement gains.

Beck's data tell us that high achievers in the national sample do not perform consistently with their initial testings. Low achievers make greater gains over the year. However, since they start from a lower score, their gains yield final scores that remain lower than those of high achievers. For example, Johnny and Michael are both second graders. Johnny, a low achiever, has a score of 36 in Mathematics, with a grade equivalent of 1.5 on his first test. Over six months, he is expected to gain 16 standard score units, and will be at a grade equivalent of 2.35.

Table 7-4

COMPARISON OF ASTOR PROGRAM PUPIL GAINS IN ACHIEVEMENT WITH A NATIONAL NORMATIVE POPULATION OF HIGH ACHIEVERS

(In Standard Score Units)

Test and Group	GAINS		
	National Norm *(Expected)	Astor Program (Actual)	Difference (Astor - Expected)
**Word Knowledge			
Level II	5.7	13.8	+ 8.1
Level III	5.7	9.0	+ 3.3
**Total Reading			
Level II	10.1	15.0	+ 4.9
Level III	10.1	10.8	+ 0.7
**Total Mathematics			
Level II	10.6	20.3	+ 9.7
Level III	10.6	13.2	+ 2.6

*Adjusted for time interval.
**Metropolitan Achievement Tests.

Michael, who is very bright, and a high achiever on the initial test, has a first score of 63, with a grade equivalent of 3.2. He is expected to gain only 7.1 score units, and will attain a grade equivalent of 3.7. Johnny's score does not match Michael's at any point, yet Michael will have gained at a slower rate in spite of his high ability. Beck's tables are a serious indictment of the educational process nationally if gifted high achievers are not receiving the type of training that will help them to advance at a rate that is consistent with their initial abilities. These comments take into account the effects of progressive item difficulty, regression, and plateaus of learning. It just does not seem reasonable that a second grader could reach a learning plateau so early in life. In any event, in the present study, we have demonstrated that high achievers can and do perform at levels that are consistent with their abilities when something happens in their classrooms to challenge them.

Pupil Attitudes Toward Aspects of School

Since many of the pupils were too young to be expected to handle a sophisticated attitude scale, we resorted to a very simple format to obtain their reactions to various aspects of school - the school in general, their teachers, classmates, learning, reading, mathematics, and class meetings. The scale had three faces - happy, neutral, and sad - under which the child was to indicate his reaction to each of these aspects. (See Appendices 19,20.) The test was scored on a scale of 2 for favorable, 1 for neutral, and 0 for negative responses. Provision was made for responses about two teachers, since there were usually two in each of the classrooms. Where there was only one, the child was told to omit the item. Our examiners found no difficulty in administering this very simple scale to the very young children, including

Table 7-5

MEAN SCORES ON SCALE OF ATTITUDE TOWARD ASPECTS OF SCHOOL
FOR ALL PUPILS IN LEVELS I, II, III

1975-76 and 1976-77 School Years

Attitude toward:	Sex	Level I N	Level I Mean	Level II N	Level II Mean	Level III N	Level III Mean
School	Boys	151	1.77	89	1.31	25	1.36
	Girls	149	1.72	77	1.39	25	1.40
	Total	300	1.75	166	1.35	50	1.38
Teacher #1	Boys	151	1.77	89	1.61	25	1.56
	Girls	149	1.80	77	1.71	25	1.64
	Total	300	1.78	166	1.66	50	1.60
Classmates	Boys	151	1.73	89	1.66	25	1.80
	Girls	149	1.74	77	1.55	25	1.76
	Total	300	1.73	166	1.61	50	1.78
Teacher #2	Boys	108	1.81	73	1.44	25	1.76
	Girls	110	1.91	64	1.64	25	1.88
	Total	218	1.86	137	1.53	50	1.82
Learning	Boys	151	1.64	89	1.64	25	1.48
	Girls	149	1.72	77	1.65	25	1.56
	Total	300	1.68	166	1.64	50	1.52
Reading	Boys	151	1.66	89	1.67	25	1.84
	Girls	149	1.66	77	1.73	25	1.84
	Total	300	1.66	166	1.70	50	1.84
Mathematics	Boys	151	1.56	89	1.49	25	1.44
	Girls	149	1.48	77	1.23	25	1.64
	Total	300	1.52	166	1.37	50	1.54
Class Meeting	Boys	151	1.54	89	1.34	25	1.52
	Girls	149	1.59	77	1.34	25	1.28
	Total	300	1.56	166	1.34	50	1.40
*Total (1 teacher)	Boys	43	12.42	16	12.19	--	
	Girls	39	11.72	13	11.31	--	
	Total	82	12.09	29	11.79	--	
**Total(2 teachers)	Boys	108	13.18	73	11.85	25	12.76
	Girls	110	13.62	64	12.09	25	13.00
	Total	218	13.40	137	11.96	50	12.88

*Maximum score = 14 (one teacher)
**Maximum score = 16 (two teachers)

the non-readers. The tests were administered to children at the end of the second and third years of attendance in the program and Table 7-5 represents the results over both years of testing.

It is not surprising that all of the means reported reflect positive attitudes. In a much more complex, factor-analytic study of dimensions of attitude toward school (6), the writer found that children's attitudes toward various aspects of school are generally positive, contrary to popular belief. It is only as they move up through the grades that children begin to develop less positive attitudes. In any case, it is quite difficult to devise a scale where one can elicit negative responses. The curve of responses on attitude scales tends to be a J-curve, with the peak at the positive end. Thus, the results obtained here merely confirm what we already know about children, that they like school and many aspects of its make-up.

Over all, the Level I children reported the most favorable reactions to school and its several aspects. As is consistent with general experience, the scores declined in Levels II and III, although still remaining generally positive.

It will be seen from the table that most children had very favorable attitudes toward their teachers and classmates, with the Level II children somewhat less favorably inclined than their peers in Levels I and III.

The least popular school activity across all levels was the class meeting, while mathematics remains, generally, a borderline subject, with many children reacting in the neutral or unfavorable category.

We do not have data on the validity and reliability of this scale, and present the results only as indicators of the direction of pupil reactions. Their significance lies in their consistency with parent observations.

Since we did not have a control population against which to match our pupils, we could not establish whether there was too much significance to the relatively high positive scores obtained. As we did with the achievement scores, we sought responses elsewhere to support our conclusion that the Astor Program children were enjoying their experience and liked school. These data were reported in the section on "Subjective Data", in which we asked parents about their children's reactions. (See Table 7-2.)

Based on these responses, we can conclude not only that the children liked school, but also that they were happier in the Astor Program than they had been in other classes.

SUMMARY

The major question is: Does it make a difference in pupil achievement and educational growth when we change what happens in the classrooms of gifted pupils? All the evidence we have been able to muster indicates that there are significant gains in achievement, specifically in the area of word knowledge, reading, and mathematics. The pupils achieved high significant gains in all areas not only in growth over a one-year period, but also in comparison with a national norming population of high achievers. The ages of the pupils did not permit too extensive testing in other areas, but it is our belief that they very likely did make significant gains in those as well, judging by parental reports of the children's growth in other aspects of the curriculum.

These gains were combined with very favorable pupil attitudes toward specific aspects of school, including teachers, learning, classmates, reading, mathematics, class discussions, and school in general.

Parents reported that their children received long-lasting benefits by attending the Astor Program. They gave a long list of such gains and cited, particularly, the love of learning, enthusiasm for school, response to challenging experiences, increased self-assurance, positive self-esteem, broadened interests, increased sociability and acquisition of many friends. Almost every parent mentioned something in response to this question.

Parents further reported that there were affective gains as well as cognitive growth. Parents noted that the children were happy in school, had acquired many friends, liked their teachers and classmates, were eager to go to school, and were enthusiastic about learning. It was the rare parent who reported any truly negative reactions on the part of a pupil to the Astor Program experience. Even these joined the other parents in a unanimous opinion that the Astor Program should be continued, preferably, of course, under the ideal conditions established by private funding.

The reality is that even though we have demonstrated how much the young gifted child can accomplish under conditions established by the Astor Program, we cannot implement all the practices we introduced due to the limitations of most school budgets. But, we now have a clearer idea of what our goals should be, we can try to come as close as possible to attaining them, and we have assurance that they really are attainable.

Our conclusion, then, is that yes, our intervention into the early education of these very superior gifted children did make a substantial difference in both the affective and cognitive domains. It is our earnest hope that the effects of the gains will persist throughout their educational lives.

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APPENDIX

1 Citywide Conferences on the Gifted: List of Speakers and Their Affiliation (Other Than Board of Education Personnel)

2 Citywide Conferences on the Gifted: Honored Guests, Speakers, Session Leaders (Personnel of New York City Board of Education)

3 Services to City School Districts, Central Board Offices, and High Schools

4 Program Evaluation: Principals

5 Program Evaluation: Teachers

6 Application for Astor Program

7 Pupil Background Data - Confidential

8 Teacher's Pupil Observation Sheet

9 Lesson Plan Outline: General

10 Lesson Plan Outline: Special Vocabulary

11 Lesson Plan Checklist

12 Parent Cooperation with Program

13 Review, Summation, Recommendations (Teacher Questionnaire)

14 Teacher's Checklist of Mathematics Activities - Kindergarten

15 Teacher's Checklist of Mathematics Activities - Grade One

16 Teacher's Checklist of Mathematics Activities - Grade Two

17 Parent Questionnaire: End of Year

18 Parent Questionnaire: Follow-Up

19 How You Feel About Things

20 How You Feel About Things: Directions

APPENDIX 1

CITYWIDE CONFERENCE ON THE GIFTED

List of Speakers And Their Affiliation *
(Other Than Board of Education Personnel)

Ms. Alice B. Acheson - Associate Editor, General Foods Division, McGraw Hill Book Co.

Dr. John P. Armstrong - District Coordinator of Education, Office of Urban School Services, New York State Education Department

Mrs. Vincent Astor - President, The Vincent Astor Foundation

Dr. Alexinia Baldwin - Assistant Professor, SUNY, Albany

Mrs. Barbara Brendon - Assistant to Regional Commissioner of Education, USOE Region II

Dr. Monroe Cravats - Associate Professor, Programs for the Gifted, York College

Mr. Jim Curry - Coordinator of GREAT National/State Leadership Training Institute, Ventura, California

Dr. James Gallagher - President, The Association for the Gifted (TAG); Director, Frank Porter Graham Child Development Center, Chapel Hill, North Carolina

Mrs. Linda Gillies - Executive Director, The Vincent Astor Foundation

Mrs. Gina Ginsberg - Executive Director, Gifted Child Society, New Jersey

Mr. Peter Goodman - Executive Board, United Federation of Teachers

Prof. Elizabeth Hagen - Professor of Psychology & Education, Teachers College, Columbia University

Mrs. Dorothy Hamilton - Vice President, Queens Association for the Gifted, New York City

Mr. Harlan Hanson - Advanced Placement, College Entrance Examination Board

Ms. Helen Heller - Director, United Parents Association, New York City

Dr. David Jackson - Executive Director, National/State Leadership Training Institute on the Education of the Gifted and Talented, Reston, Virginia

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*Also includes speakers at Staff Development Institutes, Title IVC.

Mr. Michael Kahn - Director, Shakespeare Theatre Festival, Stratford, Connecticut

Ms. Sandra Kaplan - Assistant Director, National/State Leadership Training Institute on the Gifted and Talented, Ventura, California

Dr. Philip E. Kraus - Professor of Education, Hunter College, New York City

Dr. Matthew Lipman - Director, Institute for the Advancement of Philosophy for Children, Montclair State College, New Jersey

Dr. Esther W. Lopato - Psychologist, Children's Consultation Service, New York University

Mr. Michael Millman - Consultant, Arts in Education, Arts Research Society

Mr. Roger W. Ming - Supervisor, Education of the Gifted, New York State Education Department

Ms. Elizabeth Neuman - Programs for the Gifted, ERIC Clearinghouse, Council for Exceptional Children, Reston, Virginia

Dr. Ewald Nyquist - New York State Commissioner of Education

Dr. Charles O'Connor, Jr. - Director of Occupational and Adult Education, USOE Region II

Dr. Edward Palmer - Advanced Placement, College Entrance Examination Board

Dr. A. Harry Passow - Jacob Schiff Professor of Education and Director,Division of Educational Institutions and Programs, Teachers College, Columbia University

Dr. Rudolph Pohl - Associate Professor, University of Connecticut

Dr. Joseph Renzulli - Professor of Educational Psychology, University of Connecticut

Mr. Paul Richard - Project Associate, National/State Leadership Training Institute on the Gifted and Talented, Reston, Virginia

Dr. Charles Rose - Executive Director, International Baccalaureate, North American Office, Washington, D.C.

Dr. Irving Sato - Director, National/State Leadership Training Institute on the Gifted and Talented, Ventura, California; President, The Association for the Gifted (TAG), C.E.C.

Dr. Thomas Schick - Assistant Dean, School of Business Administration, New York University

Mr. Stanley Seidman - Principal, Hunter College Elementary School, New York City

Dr. Elizabeth Seittelman - Professor, Teacher Education, York College

Dr. Dorothy Sisk - Director, Office of the Gifted and Talented, USOE, Washington, D.C.

Mrs. Linda Harris Smith - Research Assistant, Department of Educational Psychology, University of Connecticut

Mr. Robert J. Swissler - Consultant in Counseling and Director for the Gifted, The New Jersey State Education Department

Dr. Abraham Tannenbaum - Professor of Special Education, Teachers College, Columbia University

Dr. William Vassar - Consultant on Gifted, Connecticut State Education Department

APPENDIX 2

CITYWIDE CONFERENCE ON THE GIFTED

List of Honored Guests, Speakers and Session Leaders

(Personnel of the New York City Board of Education)

Board of Education

Hon. Stephen R. Aiello
Dr. Amelia Ashe
Hon. Joseph G. Barkan
Dr. Robert J. Christen
Hon. Joseph Monserrat
Hon. James F. Regan
Hon. Isaiah Robinson

Headquarters

Mr. Irving Anker, Chancellor
Dr. Bernard Gifford, Deputy Chancellor

Mrs. Clara Blackman, Assistant Director, Bureau of Educational and Vocational Guidance
Dr. Samuel E. Chelimsky, Director, Bureau of Music
Dr. Virginia Z. Ehrlich, Director, Astor Program
Dr. Harry Milgrom, Director of Science
Mr. Samuel Polatnick, Executive Director, Office of High Schools
Dr. Anthony J. Polemeni, Director, Office of Educational Evaluation
Dr. Stanley Rose, Director, Bureau of Art
Dr. Arnold Webb, Executive Director, Division of Educational Planning and Support

District Superintendents

Mr. Marvin Aaron, Superintendent, District 27
Mr. Ralph Brande, Superintendent, District 22
Mr. Nicholas Cicchetti, Superintendent, District 11
Mr. Harvey Garner, Superintendent, District 18
Dr. Beverly Lipschitz, Deputy Superintendent, District 19
Mr. Alfred Melov, Superintendent, District 15
Mr. Marvin Weingart, Superintendent, District 26
Dr. Barbara Weldon, Superintendent, District 2

District Offices

Ms. Carol Bach, Guidance Counselor, District 26
Mr. Pat Belanoff, Member, Community School Board, District 22
Mrs. Rose Blaustein, Science Coordinator, District 2
Dr. Thomas Gibbons, Supervisor of Guidance, District 10
Mr. Michael Gordon, Music Supervisor, District 16
Ms. Virginia Griffith, Guidance Counselor, District 7
Mr. George Herskowitz, Art Supervisor, District 20
Mr. Donald Kaplan, Director, Pupil Personnel Services, District 18
Mrs. Abby Kessler, Coordinator, Programs for the Gifted, District 27
Mrs. Mildred Lee, Supervisor, District 8
Mrs. Hervie Madison, Supervisor of Guidance, District 28
Mrs. Margaret Quinn, Supervisor, District 10
Mrs. Elsa Razran, Supervisor of Guidance, District 25
Dr. Nathan Young, Supervisor of Pupil Personnel Services, District 7

High Schools

Mr. Melvin Adelson, Assistant Principal, Bronx High School of Science
Mr. Saul Bruckner, Principal, Edward R. Murrow High School
Ms. Edith Del Valle, Acting Chairman, High School of Music and Art
Mr. Pat DeMeo, Principal, The New York School of Printing
Mr. Gaspar Fabbricante, Principal, Stuyvesant High School
Mr. Lawrence Finkelstein, Acting Chairman, Physical Science, Bronx High School of Science
Mr. Michael Flamhast, Acting Chairman, Music Department, South Shore High School
Mr. Santo Frontario, Principal, Aviation High School
Mr. Vincent Galasso, Grant Director, Biology Department, Bronx High School of Science
Mr. Herbert Greenberg, Teacher, Biology Department, Bronx High School of Science
Mr. Leonard Harrison, Principal, Midwood High School
Mr. Bernard Horowitz, Teacher, Mathematics Department, Bronx High School of Science
Mr. Richard Klein, Principal, Fiorello H. LaGuardia High School of Music and the Arts
Mr. Milton Kopelman, Principal (1977-), Bronx High School of Science
Mr. Joel Levine, International Baccalaureate Science Teacher, Francis Lewis High School
Mrs. Henrietta Mazen, Assistant Principal, Supervisor of Mathematics, Bronx High School of Science
Miss Sheryl Mirsky, Teacher, Mathematics Department, Bronx High School of Science
Mr. Aaron Maloff, Principal, Jamaica High School

Mr. Irving Orfuss, Teacher-in-Charge, High School of Performing Arts
Mrs. Harriet Oxman, Principal, Erasmus Hall High School
Ms. Nivea Roman, Project Coordinator, Frances Lewis High School
Mr. Moe Rubinstein, Teacher, Health Science, Clara Barton High School for Health Professions
Mrs. Ruth Ruderman, Teacher, Mathematics Department, Bronx High School of Science
Ms. Sylvia Schwartz, Teacher, Mathematics, Stuyvesant High School
Mr. Melvin Serisky, Principal, Francis Lewis High School
Mrs. Pearl Strom, Science Coordinator, Biology Department, Bronx High School of Science
Dr. Alexander Taffel, Principal, Bronx High School of Science
Mrs. Arlene Zimny, Assistant Principal, Jamaica High School

Elementary and Junior High Schools

Mr. Harvey Abramson, Assistant Principal, Supervisor of Science, Andries Rudde Junior High School
Dr. Karl Bernstein, Assistant to Principal, Junior High School 285, Brooklyn
Mr. Norman Desser, Principal, Public School 208, Brooklyn
Mr. Bernard Fishenfeld, Principal, The Mark Twain Junior High School, Brooklyn
Mr. Shaiamis Freidman, Teacher, Ditmas Junior High School
Mr. Herbert Friedman, Teacher, Intermediate School 187, Manhattan
Ms. Marcia Knoll, Principal, Public School 220, Queens
Mr. Wayne LaGary, Teacher, The Mark Twain Junior High School
Mr. James Levy, Teacher, Public School 152, Manhattan
Mr. Steve Rothschild, Teacher, Public School 115, Manhattan
Mr. Louis Schere, Teacher of Music, Public School 121, Manhattan
Mr. Charles Scicolone, Teacher, Ditmas Junior High School
Mr. Edward Stern, Principal, Ditmas Junior High School
Ms. Helen Thompson, Teacher, Public School 128, Manhattan
Mr. Julius Warsaw, Principal, Public School 114, Brooklyn
Vice President, Council of Supervisory Associations
Mr. Paul Weeks, RISE Science Teacher, District 4

Special Projects

Mr. Jack Herman, Project Supervisor, NASA Aerospace Project, District 6
Mr. Harvey Katz, RISE Director, District 4
Mr. Fred Koury, Director, City as School
Mr. Hilton Paris, Special Projects Coordinator, NASA Aerospace Project, District 6

Astor Program Teachers (Listed in front section)

Appendix 3

EXPLANATION OF CODES

AP - Participant in the Astor Program.

IVC - Participant, Program Planning for the Gifted, Title IVC Grant.

TT - Director conducted teacher training session(s).

PC - Director was speaker at Conference of District Principals.

PA - Director was speaker at Parents' Association, parent group meetings, or before Local School Board.

Pr - Director consultant on proposal writing to obtain funding.

Gr - Grants received related to the Astor Program (to supplement or replicate the classes), with director as consultant or prime initiator. Total received over $1,000,000 beyond Astor Foundation grants.

R - Resource and reference services provided by Astor Program office to district offices, principals, guidance personnel, headquarters, etc.

CC - Representatives attended Citywide Conferences or IVC Staff Development Institutes.

CP - Representatives presented at Citywide Conferences.

NC/S - Director consulted on inauguration of new classes for the gifted or formation of a magnet school.

SPC - Students participated in Citywide Conferences on the Gifted or displayed their work.

Appendix 3

SERVICES TO CITY SCHOOL DISTRICTS, CENTRAL BOARD OFFICES AND HIGH SCHOOLS

District/ Office/ School	AP	IVC	TT	PC	PA	Pr	Gr	R	CC	CP	NC/S	SPC
1					*			*	*		*	
2	*	*	*		*	*		*	*	*	*	
3						*		*	*		*	
4		*	*					*	*		*	
5								*	*		*	*
6						*		*	*		*	*
7								*	*	*	*	
8		*	*					*	*			
9						*		*	*		*	
10						*	*	*	*		*	
11	*	*	*		*			*	*	*		
12								*	*			
13		*	*					*	*		*	
14		*	*					*	*			
15	*	*	*		*	*		*	*	*	*	
16								*	*			
17				*				*	*		*	
18	*	*	*	*	*	*	*	*	*	*	*	
19				*		*	*	*	*	*	*	
20			*	*				*	*			
21						*		*	*		*	
22		*	*			*	*	*	*		*	
23			*					*	*		*	

(Continued next page)

Appendix 3 (Continued)

SERVICES TO CITY SCHOOL DISTRICTS, CENTRAL BOARD OFFICES AND HIGH SCHOOLS

District/ Office/ School	AP	IVC	TT	PC	PA	Pr	Gr	R	CC	CP	NC/S	SPC
24		*	*					*	*			
25				*				*	*			*
26	*	*	*	*	*	*		*	*			*
27	*	*	*	*	*	*	*	*	*	*		
28								*	*	*		
29					*			*	*		*	
30								*	*		*	
31				*				*	*		*	*
32		*	*	*	*			*	*		*	
Board of Education								*	*	*		
Chancellor								*	*	*		
Information Services								*	*	*		
Guidance								*	*	*		
Educational Evaluation	*	*				*	*	*	*	*		
Libraries								*				
Planning and Support	*	*				*	*	*	*	*		
Bureau of Art								*	*	*		
Bureau of Music								*	*	*		
Bureau of Science								*	*	*		
High Schools								*				

(Continued next page)

SERVICES TO CITY SCHOOL DISTRICTS, CENTRAL BOARD OFFICES, AND HIGH SCHOOLS

District/ Office/ School	AP	IVC	TT	PC	PA	Pr	Gr	R	CC	CP	NC/S	SPC
High Schools in Field:												
Art and Design									*			*
Aviation									*	*		*
Bronx Science						*	*	*	*	*		*
Brooklyn Technical									*	*		*
Edward R. Murrow									*	*		
Erasmus Hall									*	*		*
Francis Lewis									*	*		*
Jamaica									*	*		
John Dewey								*	*	*		*
Midwood									*	*		*
Music and Art									*	*		*
New Utrecht									*			*
Performing Arts									*	*		*
Port Richmond									*			*
Printing									*	*		*
Stuyvesant			*					*	*	*		*
J. F. Kennedy						*						

APPENDIX 4

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

PROGRAM EVALUATION (PRINCIPALS)

Principal _____ Date _____

School _____ Borough _____ District _____

NOTE: Your cooperation in completing this questionnaire will be most valuable in our preparation of the Astor Program Report. Your comments will be helpful in developing recommendations and suggestions for future implementation of such classes. Your responses will be considered confidential and will be reported without reference to source.

1. Astor Program children are admitted at an earlier age than is customary in kindergarten. They may be up to seven months younger than the usual 5-8 as of September 1st of the school year. Do you favor this policy?
Yes ☐ No ☐

Please comment: _____

_____

_____

_____

_____

_____

2. Astor Program classes ignore grade assignments in their daily work. The only requirement of teachers is that they must cover the work of the child's technical grade level as a minimum. Otherwise, grade assignments are used for administrative purposes only, and have no effect on the work undertaken. Do you agree with this policy?
Yes ☐ No ☐

Please comment: _____

_____

_____

_____

_____

_____

3. Do you plan to use Astor Program practices in other classes in your school?

Yes ☐ No ☐

Please explain.

4. What has been the impact of Astor Program classes on other classes of similar age range pupils in the school? With respect to interpersonal relations? With respect to curriculum practices?

5. What has been the general impact on the school of having Astor Program class (es)?

6. What has been the effect on the relationships between teachers of having Astor Program class(es) in the school?

7. What has been the nature of the relationship between Astor Program parents and other parents in the school?

8. How do you view your role in the continuation of classes following Astor Program practices?

9. Do you favor homogeneous grouping for the gifted?

On a full-time basis: Yes ☐ No ☐

On a part-time basis: Yes ☐ No ☐

Comments: _____

_____

_____

_____

_____

10. Do you feel that Astor Program children would have done equally well in heterogeneous regular classes? Yes ☐ No ☐

In other classes? Yes ☐ No ☐

Comments: _____

_____

_____

_____

_____

11. How do you feel about continuing Astor Program classes, following the same practices, in your school?

_____

_____

_____

_____

_____

12. Please be kind enough to encircle the appropriate word or words in the following paragraph, or add your own choice. If you would prefer to make your own statement, or add to the statement below, please do so.

I have (enjoyed / been annoyed at / not liked / been indifferent to / (_____)) having the Astor Program in my school.

It has brought (conflict / difficulties / prestige / new directions / (_____)) to the education of early childhood classes. It is (not likely to / likely to / (_____)) have a permanent impact on the conduct of future early childhood classes.

Administration of the program, with a central director, has presented (few / many / no / (____)) problems, and these have been (easily resolved / mostly unresolved / ignored / (_____)) during the course of the program. It has (coincided / interfered / not been in conflict / (_____)) with my own policies and plans for educating the gifted in my school. My relations with the central coordinator have been (difficult / cordial / most cooperative / limited / (_____)) and our meetings have been (most productive / somewhat productive / of little value / (_____)) toward a cooperative effort in managing this program.

Additional Comments: (Please add any comments you feel will clarify the foregoing items or in other areas. Continue on reverse side.)

APPENDIX 5

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

PROGRAM EVALUATION (TEACHERS)

Name _____ Date _____

School _____ Level _____

Home Address _____ Telephone _____

_____
City Zip

NOTE: Please complete this questionnaire as fully as possible. Your comments on individual items will be most important for our final recommendations. Do not leave any blanks. Feel free to use specific examples to clarify your comments. Your responses will be confidential.

1. During what period(s) have you served in the Astor Program?

From _____ To _____
Month Year Month Year

From _____ To _____

2. What levels have you taught?

Level I ☐ Level II ☐ Level III ☐

3. Have you taken a course for the gifted for credit? Yes ☐ No ☐

If yes, where and with whom? _____

Course: _____ Credits _____

Course: _____ Credits _____

4. What other courses or training institutes on the gifted have you attended? Please give name, sponsoring agency, duration, credits (if any).

_____

_____

_____

5. Given a choice, would you like to continue working in Astor Program classes?

Yes ☐ No ☐

Comments: _____

_____

6. Astor Program classes have an age range that exceeds the usual class by six to eight months. What is your reaction to the grouping of gifted children in this greater age range? If you feel differently about each level, please specify. (See #7,#8)

7. (Level I Teachers Only) The Astor Program accepts children who are up to seven months younger than the usual admission age for kindergarten. The purpose was to provide an "early admission" policy, with a view toward grade acceleration for most of these children. What is your reaction to this policy? Should it be continued? Please give specific reasons.

8. (For Level II and Level III Teachers Only.)
Please read Item 7. Has there been any impact on later levels of our "early admission" policy? Do you think that, even though pupils are accepted early, their actual grade acceleration should be postponed for an upper level, i.e. II or III? Should we continue our policy of grade accelerating most, and postponing actual acceleration for a few, until the end of Level II or III? What specific reasons do you have for your decisions? Use examples, if they will clarify your argument.

9. What is your reaction to our policy of working with "problem" children within the framework of the class, whenever possible? Do you think it might have been wiser to drop some children early, rather than continuing our "psychological" services? What is the impact on (1) the child, (2) the class, of having such children remain? Are there different categories of behavior we should consider?

10. What is your reaction to the monthly training sessions? Favorable / Unfavorable

Do you have any suggestions for changes?

11. How do you feel about Astor Program classes? Should they be continued? Given ideal budgetary conditions, what teacher and classroom organization do you think we should have? (Consider schedules, number of teachers, teacher background, classroom organization, any other topic.)

12. Should the range of abilities in Astor Program classes remain the same /__/ or be expanded to include a larger range /__/, or be reduced to include a more limited range /__/ In which direction-higher /__/, lower /__/?

Comments: _____

_____

_____

13. Please list the educational background you think a teacher of exceptionally gifted should have, in order of importance. (Most important first.)

_____

_____

_____

_____

_____

14. Please list the prior experience a teacher of the exceptionally gifted should have, in order of importance. (Most important first.)

_____

_____

_____

_____

15. Please list the characteristics you think a teacher of the exceptionally gifted should have, in order of importance, as you see it. (Most important first.)

_____

_____

_____

_____

_____

16. To what extent is parent participation and involvement desirable in Astor Program classes?

	As much as Possible	Occasionally	Rarely	Not at all
As volunteers for trips	___	___	___	___
For special class events	___	___	___	___
In career guidance sessions	___	___	___	___
General classroom assistance	___	___	___	___
Teaching a special subject	___	___	___	___
Consultation with respect to their own children	___	___	___	___
Helping child at home with school work	___	___	___	___
Supporting classroom practices at home	___	___	___	___

Other: _____

_____

17. Do you feel that you have had administrative support for your work within the school? Yes ☐ No ☐

Comments: _____

_____

18. Has your participation in the Astor Program had any effect on your relations with other teachers in the school? Favorable ☐ Unfavorable ☐ No effect ☐

Please explain: _____

_____

_____

General Comments: (Please give me any general reactions you may have to supplement the above or in any other category.)

_____

_____

_____

_____

APPENDIX 6

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

APPLICATION FOR ASTOR PROGRAM

Parent's Name _____ Date _____
Last First

Home Address _____ Telephone _____
Number Street Area-Number

_____
City State Zip

Business Address _____ Telephone _____
Number Street Area-Number

_____
City State Zip

Child's Name _____ Relationship _____

Date of Birth _____ Place of Birth _____
Month Day Year

Has he/she had any previous schooling? Yes ☐ No ☐

Name of School _____ Present Grade _____

What indication do you have of child's giftedness? Please be specific.

_____

_____

_____

_____

_____

Has the child ever been tested? Yes ☐ No ☐ Where? _____

Which test was administered? _____ Rating _____

Is it possible to have results sent to this office? Yes ☐ No ☐ If yes, please have results sent to this office by the testing agency.

Parents are responsible for transporting children to and from school. Would this present any problem? Yes ☐ No ☐ Comments _____

An evaluation of the child from a qualified objective source is desirable. (Teacher, school principal, pediatrician, etc.) Please arrange to have a person write to us, evaluating the child's abilities.

Referred by _____

APPENDIX 7

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

PUPIL BACKGROUND DATA
(CONFIDENTIAL)

Name of Child _____ Date _____
First Last Month Day Year

Place of Birth _____ Date of Birth _____
City Country Month Day Year

Male ( ) Female ( ) Height _____ Weight _____
Inches Pounds

Address _____ Telephone: ( ) _____
Number Street Area Number

_____
City State Zip

Mother's Name _____
First Last

Place of Birth _____
City Country

Age at birth of child _____ Years

Mother's Education: Check highest level completed

( ) Grade 6
( ) Grade 8
( ) High school graduate
( ) Junior college
( ) College (Degree: _____)
( ) M.A., M.S., M.Sc., M.B.A., etc.
( ) Ph.D., Ed.D., M.D., D.D.S.
( ) Graduate work: no degree
(Number of credits _____)

Other: _____
_____

Mother's Occupation: Check one

( ) Mother, Homemaker
( ) Factory worker
( ) Clerical, office
( ) Sales
( ) Manager, Own Business
( ) Professional
Field _____
( ) Other: Specify _____

Father's Name _____
First Last

Place of Birth _____
City Country

Age at birth of child _____ Years

Father's Education: Check highest level completed

( ) Grade 6
( ) Grade 8
( ) High school graduate
( ) Junior college
( ) College (Degree: _____)
( ) M.A., M.S., M.Sc., M.B.A., etc.
( ) Ph.D., Ed.D., M.D., D.D.S.
( ) Graduate work: no degree
(Number of credits _____)

Other: _____

_____

Father's Occupation: Check one

( ) Father, Homemaker
( ) Factory worker
( ) Clerical, office
( ) Sales
( ) Manager, Own Business
( ) Professional
Field _____
( ) Other: Specify _____

Is child adopted? Yes ( ) No ( )
If child is adopted, at what age did adoption occur? _____
Years Months

Does child know he/she is adopted? Yes ( ) No ( )

Brothers and Sisters of Child

How many brothers and sisters does child have? Circle one. (Do not include child in count.)

1 2 3 4 5 6 7
If more than 7, specify _____

List brothers and sisters, in order from oldest to youngest.

	First Name	Date of Birth Month	Day	Year		
1	_____	___	___	___	Male ( ) Female ( )	Adopted ( ) Natural ( )
2	_____	___	___	___	Male ( ) Female ( )	Adopted ( ) Natural ( )
3	_____	___	___	___	Male ( ) Female ( )	Adopted ( ) Natural ( )
4	_____	___	___	___	Male ( ) Female ( )	Adopted ( ) Natural ( )
5	_____	___	___	___	Male ( ) Female ( )	Adopted ( ) Natural ( )
6	_____	___	___	___	Male ( ) Female ( )	Adopted ( ) Natural ( )
7	_____	___	___	___	Male ( ) Female ( )	Adopted ( ) Natural ( )

Comments (Children of previous marriages, etc.) _____

_____

With whom does child live? Check one

( ) Mother only
( ) Father only
( ) Mother and Father
( ) Grandparent: (Specify, grandmother, grandfather, or both_____)
( ) Guardian
( ) Other _____ Please explain._____
_____

Are parents separated? Yes ( ) No ( )
Are parents divorced? Yes ( ) No ( )

If parents are separated or divorced, does child see other parent?
Yes ( ) No ( ) How often? _____

How does child spend summers?

( ) At home with parents
( ) With separated or divorced "other" parent
( ) At day camp
How many hours per day _____
How many weeks_____
( ) At camp away from home
For how long? _____Weeks
( ) With grandparent(s)
( ) Other: Please explain _____
_____
_____
_____

What language is spoken in home;
Between parents or guardians_____
With child _____

Medical History

Was pregnancy normal? Yes ( ) No ( )
If not, specify complication: _____

_____

What sort of delivery procedure was used?
( ) Completly natural childbirth
( ) Natural childbirth-mild medication
( ) Normal anesthesia
( ) Saddle block
( ) Spinal
( ) Other: Specify: _____

How many hours was the total period of labor (from the first contraction to delivery)? _____

Were there any complications during labor or delivery? Specify: _____

_____

_____

What was the child's birth weight? _____
Pounds Ounces

Was the baby:
( ) full term
( ) premature (how many weeks premature?) _____

Neonatal problems:
Jaundice: Yes ( ) No ( )
Other problems: (specify) _____

Does your child have any medical or physical problems? Please list and explain.

_____

_____

_____

_____

Is he/she receiving medical care for the problem? Yes ( ) No ( )

Has the child been hospitalized? Yes ( ) No ( )
If yes, list reasons and date, name of hospital, length of hospitalization.

_____

_____

_____

_____

Were there any separations from the child during the first year for more than 5 days (e.g. for hospitalizations of the mother, vacations, etc.)

Specify time period. Age of child _____ How long _____
Years Months Days

_____ _____

_____ _____

_____ _____

Did the mother work during the first year of life? Yes ( ) No ( )
If "yes", list number of hours per week. _____

Mother now working? Yes ( ) No ( ) If "yes", list number of hours per week._____

When mother works, what child care arrangements are made:

( ) Relative (Relationship _____)
( ) Baby sitter in the home
( ) Neighbor in her home
( ) Day care center
( ) Other:_____

Has child had any emotional or adjustment problems which required psychological or psychiatric treatment? Yes ( ) No ( )
Please explain: _____
_____
_____
_____

Has the child been in therapy while attending the Astor Program?
Yes ( ) No ( )
Please give dates _____ to _____
Month Year Month Year

Please give name of therapist or agency where treatment is given: _____
_____
_____

Who filled out this form?

( ) Mother
( ) Father
( ) Mother and father
( ) Guardian
( ) Other: Specify_____

COMMENTS: _____
_____
_____
_____
_____
_____

We thank you for your cooperation and assure you that these notes are strictly confidential. They will not be used in any way that will reflect on any child or parent. Names are needed to correlate information, but are not used in the analyses.

APPENDIX 8

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

TEACHER'S PUPIL OBSERVATION SHEET

Pupil: _____ Date: _____
Last First

Date of Birth: _____ Age: _____
Years Months

First Day of School: _____ I.Q. _____

Description:

Physical Appearance _____

Personality (Outstanding characteristics) _____

Intellectual Make-up (Your estimate) _____

Special Talents or Interests _____

Individual Needs (Physical, emotional, intellectual) _____

Adjustment to Class _____

TEACHER'S PUPIL OBSERVATION SHEET
(Continued)

Curriculum Areas (Describe briefly your estimate of the child's current status in each)

Reading _____

Mathematics _____

Science _____

Social Sciences _____

Art _____

Music _____

Foreign Language _____

Handwriting _____

Physical Activity _____

Individualized Activity: (Any special activity that required personal attention because of a pupil need, e.g. interest, skill, special problem, etc.) _____

Comments: _____

APPENDIX 9

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

LESSON PLANS (TOPIC)_____

School: _____ Week of:_____

PUPIL GROUP:_____

BROAD GOALS

_____

_____

_____

THINKING SKILLS

_____

_____

_____

_____

_____

OBJECTIVES (List and number)

_____

_____

_____

_____

_____

_____

_____

_____

DAY	ACTIVITY	OBJECTIVE NUMBER
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		

TEXTBOOKS, WORKBOOKS, ETC.

RESOURCE MATERIALS

CORRELATION WITH OTHER CURRICULUM ACTIVITIES

NOTES AND OUTCOMES

TEACHERS _____ _____

_____ _____

APPENDIX 10

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

LESSON PLANS: Special Vocabulary

School: _____ Week of: _____

PUPIL GROUP: _____

BROAD GOALS

_____

_____

_____

THINKING SKILLS

_____

_____

_____

_____

_____

OBJECTIVES (List and number)

_____

_____

_____

_____

_____

_____

_____

_____

TOPIC	WORDS	OBJECTIVE NUMBER

RESOURCE MATERIALS: DICTIONARY, ENCYCLOPEDIA. LIST OTHER.

NOTES AND OUTCOMES

TEACHERS: _____ _____

_____ _____

APPENDIX 11

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

Lesson Plan Checklist

School _____ Level _____ Week _____ Year _____

1. All subject areas accounted for:
___math ___language arts (reading) ___science ___art ___music
___foreign language ___vocabulary ___storytime/poetry
___physical activities ___social living ___class discussions
___special interest ___special activities ___other

2. Class discussions: are topics explained? _____ Yes _____ No

3. Music, literature and poetry: are titles, authors, composers listed? Yes ☐ No ☐

4. Broad goals: are they listed, coded? ____ Yes ____No

5. Objectives: specifically and correctly stated? ____ Yes _____ No

6. Thinking skills: appropriate to the activities presented? ____Yes ____ No

7. Are activities in sufficient detail to show relationships to objectives?
____ Yes ____No

8. Outcomes: stated in detail ____ Yes ____No

9. Sources: teacher and pupil sources listed? ____Yes ____No

10. Physical activities: time stated; activities described; balance between free play and organized activities? ____ Yes ____No

11. Signatures of teachers on all sheets ____Yes ____No

Comments:

Reviewer_____

APPENDIX 12

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

Dear Parents,

We would appreciate receiving some indication from you as to how you can help or participate in the work of the Astor Program.

Would you check those areas listed below where you think you can be of assistance?

_____ Help during lunchtime if a teacher is absent.

_____ Accompany the class on trips.

_____ Demonstrate a special skill, i.e. art, music, mechanical device, craft, etc. Please describe: _____

_____

_____

_____ Talk about your field of work. Please describe the occupation.

_____

_____

_____ Arrange for a visit to a special place, i.e. factory, TV studio, science laboratory, etc. Please give type and location: _____

_____

_____

Assist in teaching:

_____ art

_____ music

_____ foreign language

_____ science

Please describe your qualifications for doing this. _____

_____

_____

_____ I regret that I cannot help at this time.

THANK YOU!

APPENDIX 13

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

REVIEW, SUMMATION, RECOMMENDATIONS
Spring, 1978

TEACHER(S) _____ DATE _____

_____

SCHOOL _____ DISTRICT _____ LEVEL or GRADE _____

PARAPROFESSIONAL _____

(USE REVERSE OF PAGE IF YOU NEED MORE SPACE. NUMBER ITEM)

1. List the special interest topics used in your class this year. (Please explain if heading is not self-explanatory.)

TOPIC	EXPLANATION

2. Do you have a product demonstrating the above topic(s)? Yes ☐ No ☐
If yes, please list the title here and send us a copy.

3. TRIPS. List the trips your class took this year and state briefly their relation to your classroom curriculum: e.g. Bethpage, Study of Early America or Special Interest Topic.

TRIP	CURRICULUM APPLICATION

(Continue on reverse)

4. LITERATURE. Have you used any special books for oral reading to the class for serial reading over a period of time? Yes ☐ No ☐ Please list and give a one word rating of the success or failure of the reading experience.

TITLE AND AUTHOR	RATING

5. LITERATURE. List any special activities related to the serial reading. (Indicate title associated with the activity.)

6. LITERATURE. Please list the titles of three books that were most popular with your class this year. (More if you wish.)

TITLE	AUTHOR

7. LITERATURE. List four, five or more books that you recommended that children read on their own.

AUTHOR AND TITLE

8. LITERATURE. How have you used poetry in your classroom?

_____

_____

_____

_____

9. LITERATURE. List four, five or more specific poems that the children enjoyed which would not normally be used at your grade level.

AUTHOR AND TITLE

_____

_____

_____

_____

_____

_____

10. MATHEMATICS. What mathematical concepts or topics did you cover that went beyond the prescribed curriculum for your grade levels? If title is not self-explanatory, please give a brief description.

TOPIC	DESCRIPTION
_____	_____
_____	_____
_____	_____
_____	_____

11. MATHEMATICS. Do you have any written materials or pupil products that illustrate your work? Yes ☐ No ☐

Give title or topic below and send us a copy for our files.

_____

_____

12. SOCIAL SCIENCES. List the social sciences that were sampled in your classes this year, IF a significant topic was studied or discussed in relation to the area.

AREA OF SOCIAL SCIENCE	TOPIC STUDIED

13. SOCIAL SCIENCES. Give an example of how your social science curriculum differed from the regular curriculum prescribed for your grade level.

14. SCIENCE. What broad science concepts did you cover this year?

15. SCIENCE. Describe two or three exceptionally successful science experiences or demonstrations that your class enjoyed this year.

16. VALUES, AFFECTIVE EDUCATION, SELF-CONCEPT. The Astor Program has stressed the importance of values and affective education and the development of positive self-concepts. Below, please list topics of any discussions and/or activities related to:

Values Education

Development of Self-Concepts

Affective Education, Emotional Growth, Feelings.

17. PARENTS ROLES. Did you use parents as resources for:

Trips: Yes ☐ No ☐

Career Education. Yes ☐ No ☐
List Careers.

Teaching a Special Subject. Yes ☐ No ☐
List subject(s).

18. RECOMMENDATIONS AS TO CHANGES, IMPROVEMENTS, OR CONTINUATION OF PRACTICES FOR YOUR LEVEL.

Please list at least five, and as many more as you wish.

19. HIGHLIGHTS. If there are any highlights of this year's activities, describe them very briefly and send us supporting data, if you have any.

20. ANECDOTES. Please tell us about special anecdotes that illustrate the intellectual capacities of your children or special areas of cognitive or affective experience. Consider positive experiences, amusing points of view, special insights, unusual (positive) behaviors that illustrate the characteristics of gifted children. State them briefly here, and if you can, send us more details later. (Use reverse of page.)

APPENDIX 14

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

TEACHER'S CHECKLIST OF MATHEMATICS ACTIVITIES
Basic Curriculum - Kindergarten
Report for Period _____

TEACHERS _____ _____

CLASS _____ SCHOOL _____

INSTRUCTION: Have you covered the following materials from the Board of Education Curriculum Guides? All children who would technically be in the kindergarten (age 4 years 8 months as of September first) or in first grade (age 5 years 8 months) should have been exposed to the curriculum appropriate to his grade as a minimum. Enter the dates that correspond to lessons in your plan book for each activity covered. Keep this record current.

TOPIC I. NUMBER NAMES AROUND US: READINESS FOR NUMBERS Dates

1. Number Names in Classroom, School and Neighborhood

_____

2. Number Names from Personal Data

_____

3. Number Names in Stories and Rhymes

_____

TOPIC II. ONE-TO-ONE CORRESPONDENCE BETWEEN SETS OF OBJECTS

1. A Set of Objects for a Set of Children

_____

2. Matching a Set of 2 or 3 or More Objects with a Set of Related Objects

_____

TOPIC III. PERCEIVING THE NUMBER IN A SET AND ITS SUBSETS WITHOUT COUNTING — Dates

1. Concept of Pair

2. Working and Playing with Sets of Zero, One, Two, Three (or More) Objects

3. Using and Observing Sets of Two or Three Objects, Subsets Within Sets

4. Working and Playing with Sets of From Zero Through Four (or More) Objects

5. Using and Observing Sets of Two, Three, or Four Objects, Subsets

TOPIC IV. PERCEIVING THE NUMBER IN A SET AND ITS SUBSETS: COUNTING, COMBINING, AND SEPARATING

1. Counting 2, 4, and 6 (or 8) Objects Patterning; Observing Last Set

2. Counting 3 and 5 (or 7) Objects, Patterning; Observing Last Set

3. Perceiving Doubles Within an Even Number of Objects, Through a Total of 6, or More

4. Subsets, Additions, and Subtractions Within 2, 3, and 4 Objects

5. Thinking Out Result of Adding One and Taking Away One Within 6 Objects

TOPIC V. NUMBER LINE CONCEPTS: EARLY LEVELS OF DEVELOPMENT Dates

1. Perceiving at Once or Thinking Out the Number in a Line of Objects - Through 6 or More

2. Concepts of Length and Weight; Using Rectangular Building Blocks of 4 Lengths

3. Measuring the Length of an Object by Matching with Unit-Objects Placed End-to-End

TOPIC VI. GEOMETRIC CONCEPTS AND FRACTIONAL PARTS: EXPLORATION AND EXPERIMENTATION

1. Perceiving Numerousness of Very Small Objects in Heaps; Dividing Heaps into Halves and Fourths

2. Sharing a Single Object and a Set of Objects: One Half

3. Comparing Capacities of 3 Cylindrical Containers, One Half of a Container, Measuring Capacities

4. Perceiving Some Properties of Rectangular, Cylindrical, and Spherical Objects; Concepts of Circular; Concepts of Time and Direction

APPENDIX 15

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

TEACHER'S CHECKLIST OF MATHEMATICS ACTIVITIES
Basic Curriculum - Grade One
Report for Period _____

TEACHERS _____ _____

CLASS _____ SCHOOL _____

INSTRUCTION: Have you covered the following materials from the Board of Education Curriculum Guides? All children who would technically be in the kindergarten (age 4 years 8 months as of September first) or in first grade (age 5 years 8 months) should have been exposed to the curriculum appropriate to his grade as a minimum. Enter the dates that correspond to lessons in your plan book for each activity covered. Keep this record current.

TOPIC I. NUMBER NAMES AROUND US: READINESS FOR NUMBERS Dates

1. Number Names in Classroom, School and Neighborhood

_____

2. Number Names from Personal and Class Data

_____

3. Number Names in Stories and Rhymes

_____

TOPIC II. ONE-TO-ONE CORRESPONDENCE BETWEEN SETS OF OBJECTS

1. A Set of Objects for a Set of Children

_____

2. A Set of Objects with a Set of Related Objects

_____

3. A Set of Tallies for a Set of Objects or Children

_____

TOPIC III. PERCEIVING THE NUMBER IN A SET AND ITS SUBSETS WITHOUT COUNTING

1. Sets and Subsets: Zero Through Five Objects

_____

2. Sets and Subsets: Six Through Ten Objects

_____

3. Sets Through Twenty or More

_____

TOPIC IV. PERCEIVING THE NUMBER IN A SET AND ITS SUBSETS: COUNTING, COMBINING, AND SEPARATING — Dates

1. Counting Forward and Backward by Ones and by Twos, Patterning Through 20 or More

2. Doubles and Near-Doubles, Through a Total of 10 or 11, or More

3. Subsets Within 10; Adding and Taking Away 1, 2, 3, and 4 Within a Total of 10 Objects, or More; Commutation

4. Counting Forward and Backward by Fives and Tens - Through a Total of 20 or More Objects

TOPIC V. NUMBER LINE CONCEPTS: EARLY LEVELS OF DEVELOPMENT

1. Perceiving at Once or Thinking Out the Number in a Set of Objects in a Line - Through 10 or More

2. Concepts of Lengths and Weights: Using Rectangular Table Blocks and Tagboard Strips of 10 Graduated Lengths

3. Measuring Lengths of Familiar Objects Using a Rectangular Table Block or Tagboard Strip as a Unit of Length

TOPIC VI. GEOMETRIC CONCEPTS AND FRACTIONAL PARTS: EXPLORATION AND EXPERIMENTATION — Dates

1. Perceiving Numerousness of Very Small Objects in Heaps; Dividing Heaps into Halves, Fourths, Eighths, and Thirds

---

2. One Half and One Fourth of a Single Object and a Set of Objects

---

3. Comparing Capacities of Cylindrical Containers; One Half and One Fourth of the Capacity of a Container; Measuring Quantities

---

4. Rectangular Objects and Rectangles; Spherical and Cylindrical Objects and Circles; Concepts of Time and Direction

---

APPENDIX 16

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

TEACHER'S CHECKLIST OF MATHEMATICS ACTIVITIES
Basic Curriculum - Grade Two
Report for Period _____

TEACHERS _____ _____

CLASS _____ SCHOOL _____

INSTRUCTION: Have you covered the following materials from the Board of Education Curriculum Guides? All children who would technically be in the kindergarten (age 4 years 8 months as of September first) or in first grade (age 5 years 8 months) should have been exposed to the curriculum appropriate to his grade as a minimum. Those children who have completed the curriculum at their technically appropriate grade level should now be working on the next level. Enter the dates that correspond to lessons in your plan book for each activity. Keep this record current.

TOPIC I. JUDGMENTS AND MEASURES	Dates
A. Extended Concepts and Comparisons:	
1. bulk and liquid	
2. distance	
3. place	
4. shape	
5. size	
6. speed	
7. temperature	
8. time	
9. weight	
B. Understanding the Use of Non-standard Measures of:	
1. bulk and liquid	
2. size	
3. weight	
C. Use of Standard Measures of Liquid and Time	

TOPIC II. FRACTIONAL PARTS Date

A. Halves and Fourths:

1. of a single object	
2. of bulk and liquid	

B. Half of Numbers Through 10

1. fourth of 8	
2. half of numbers through 20	

TOPIC III. THE MEANING OF NUMBERS

A. Numbers as Groups:

1. Numbers through 6:	
a. Comparing groups	
b. Groups within numbers	
c. Reversing groups	
d. Doubles and near-doubles	
e. Regrouping the number taken away	
2. The numbers 7 and 8:	
a. Comparing groups	
b. Groups within numbers	
c. Reversing groups	
d. Doubles and near-doubles	
e. Regrouping the number taken away	
3. The numbers 9 and 10:	
a. Comparing groups	
b. Groups within numbers	
c. Reversing groups	
d. Doubles and near-doubles	
e. Regrouping the number taken away	

B. Counting

1. Counting by groups through 10	
Counting backwards 10-1	
2. Counting by ones through 20	
3. Counting by tens and ones through 100	
4. Counting by groups through 20	
5. Counting backwards, 20-1	
6. Counting by groups through 30,40,50,60,70,80,90,100	

C. Money Value

	Dates
1. Values through 6 cents	
2. Making change, counting to 10 cents	
3. Values through 8 cents	
4. Making change	
5. Values through 10 cents	
6. Counting money through 20 cents	
7. Counting money through 30 cents, 40 cents, etc.	

D. Numbers in series

1. Identifying numbers of beads within 10	
2. Numbers through 10: taking away 1	
3. Ordinals through sixth	
4. Ordinals through eighth	
5. Ordinals through tenth:	
a. adding 1-2	
b. taking away 1-2	
6. Identifying numbers of beads within 2 rows (10 each)	
7. Numbers through 20:	
a. adding 1-2	
b. taking away 1-2	

E. Using Symbols

1. Symbols through 10	
2. Addition and subtraction within 6	
3. Addition and subtraction within 8	
4. Addition and subtraction within 10	
5. Relating symbols through 20 to place value concept (recognition)	
6. Relating symbols place value concept (recognition)	

F. Place Value Concept

1. Identifying second decade numbers:	
a. 2 rows of beads	
b. dimes and pennies	
c. 2 dimes	
2. Identifying numbers using dimes and pennies through 30, 40, etc.	

TOPIC IV. ADDITION AND SUBTRACTION FACTS

	Dates
A. Numbers through 6:	
1. Adding (15 facts)	
2. Taking away (15 facts)	
3. Reversing groups	
4. Doubles and near-doubles	
5. Regrouping the numbers taken away	
B. The numbers 7 and 8:	
1. 13 new addition facts	
2. 13 new subtraction facts	
3. Reversing groups	
4. Doubles and near doubles	
5. Regrouping the numbers taken away	
C. The numbers 9 and 10:	
1. 17 new addition facts	
2. 17 new subtraction facts	
3. Reversing groups	
4. Doubles and near-doubles	
5. Regrouping the numbers taken away	
D. Numbers through 20:	
1. Adding and taking away 1-2	
2. Regrouping the numbers added	
3. Doubles	
4. Reversing groups	

APPENDIX 17

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

PARENT QUESTIONNAIRE: End of Year

PUPIL'S NAME: _____ Boy ( ) Girl( ) Date: _____
Last First

CLASS: ASTOR PROGRAM Level I ( ) Level II ( ) Level III( ) SCHOOL: _____ BOROUGH: _____

PARENT'S (GUARDIAN'S) NAME: Father _____
first last

Mother _____
first last

ADDRESS: _____
number street

_____
city state zip

Who filled out this form?

Father	( )
Mother	( )
Father and mother	( )
Guardian	( )
Other	( )

1. How did you hear about the Astor Program? Please give specific information, such as name of newspaper, radio station, letters, individual references, etc.)

_____
_____
_____

2. Have you observed any growth in your child's abilities in each of the following areas? (Place a check in the appropriate column next to each item.)

	YES	NO	NO CHANGE
Reading	_____	_____	_____
Word knowledge	_____	_____	_____
Use of language	_____	_____	_____
Mathematical skills	_____	_____	_____
Science skills	_____	_____	_____
Social living	_____	_____	_____
Art	_____	_____	_____
Music	_____	_____	_____
Foreign language	_____	_____	_____

Comments

_____
_____
_____

3. How does your child seem to behave since joining the Astor Program? Please check each word or phrase that applies to your child.

_____	Happier	_____	Has acquired new interests
_____	More at ease	_____	Likes teacher(s)
_____	Less restless	_____	Likes children
_____	More sociable	_____	Bored
_____	More interested in schooling	_____	Tired
_____	Enthusiastic about learning	_____	Withdrawn
_____	Eager to go to school	_____	Restless
_____	Gets along better with siblings	_____	Unhappy
_____	Has made some friends	_____	Indifferent
_____	Seems to have a great deal to talk about	_____	Weepy
		_____	Does not like school
		_____	Dislikes teacher(s)
		_____	Dislikes children in class
		_____	Seems lonely

Comments:

_____

_____

_____

4. What is your reaction to the teachers as teachers? (See next item.)

_____

_____

_____

_____

_____

5. What is your reaction to the teachers in their personal relations with the children?

_____

_____

_____

6. How does your child respond to the length of the school day? (Level I)

_____ No problem
_____ Too long
_____ Too short

Comments:

_____

_____

7. Is the rest period adequate for your child? (Level I)

_____ No problem
_____ Should be eliminated
_____ Too short
_____ Too long

8. Has your child's participation in the Astor Program helped you in any way?

	YES	NO	NO CHANGE
I understand my child's social and emotional needs better.	___	___	___
Comments: _____			
I understand my child's educational needs better.	___	___	___
Comments: _____			
I feel relieved to know that my child's educational needs are being met.	___	___	___
Comments: _____			
I have been able to share my problems and experiences with parents having a child of similar abilities.	___	___	___
Comments: _____			
I understand more about the nature of intellectual giftedness.	___	___	___
Comments: _____			
I find that I can manage my child more easily. (Please explain.)	___	___	___
_____			
It has helped me to resolve a special problem with respect to my child. (Please explain.)	___	___	___
_____			

Other Comments: _____

9. Do you think the Astor Program should be continued? (Please give reasons for or against.) ___ ___

_____

10. Have you any suggestions or comments? (Use reverse side, if needed.)

_____

THANK YOU!

APPENDIX 18

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

PARENT QUESTIONNAIRE - FOLLOW-UP

Pupil's Name _____ Boy ☐ Girl ☐ Date _____
Last First

Address: _____
Street

_____
City State Zip

Present School _____ District ____ Grade or Level _____

School Address _____
(if it is not a New York City Public School)

Teacher(s) _____

1. Are you satisfied with your child's present schooling? Yes ☐ No ☐
   Comments: _____

   _____

   _____

2. Compared to the Astor Program up to June, 1977 or up to the date your child was transferred, how do you think your child's educational needs are being met now?

   _____ Much Better

   _____ Better

   _____ About the same

   _____ Not as well

   _____ Not at all

3. Please list some long-lasting benefits your child has experienced in the Astor Program (through June, 1977).

   1. _____

   2. _____

   3. _____

   4. _____

   5. _____

4. Check each item that best describes your child's reaction to his/her present school situation, i.e. since June, 1977 or period he/she left the Astor Program.

_____ Happy	_____ Unhappy
_____ Interested	_____ Bored
_____ Eager to learn	_____ Frustrated
_____ Finds work challenging	_____ Finds work too easy
_____ Likes going to school	_____ Dislikes going to school
_____ Has many friends	_____ Has very few friends
_____ Likes teacher(s)	_____ Dislikes teacher(s)

5. Please check any of the following terms that best describes the classroom environment of your child, under: (check both columns)

Current Class (Since Sept., 1977 Astor Program or elsewhere)		Astor Program (Up to June 1977)
_____	Structured	_____
_____	Undisciplined	_____
_____	Too much homework	_____
_____	Not enough homework	_____
_____	Noisy	_____
_____	Happy, cheerful	_____
_____	Too strict	_____
_____	Attractive	_____
_____	Children busy	_____
_____	Understanding teacher	_____
_____	Interesting activities	_____
_____	Well planned	_____

6. Please list any sources of discontent that have affected your child as a result of being in the Astor Program (through June, 1977 only).

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____

7. Do you think we should continue Astor Program classes:
   As they are now? Yes ☐ No ☐
   As they were up to June, 1977? Yes ☐ No ☐

8. Has your child developed any special interest or demonstrated any special talent as a result of being in the Astor Program? Yes ☐ No ☐
   Please tell us about it. _____

_____

_____

_____

_____

9. (For parents of children no longer in the Astor Program classes.) If you have transferred your child to another school or class, please tell us the reason for this change.

_____

_____

_____

_____

10. (For parents of children still in Astor Program classes.) If your child is still in an Astor Program class, do you plan to remain with the program next year? Yes ☐ No ☐

If your answer is "NO", please tell us why you are making the change.

_____

_____

_____

_____

_____

11. We would like to hear from you and would appreciate any additional comments you may have with respect to the Astor Program.

Parent's Signature _____

APPENDIX 19

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

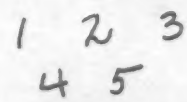
HOW YOU FEEL ABOUT THINGS

NAME_____ DATE_____

SCHOOL_____ LEVEL _____

COOKIES ( ) ( ) ( )

YELLOW ( ) ( ) ( )

SCHOOL		( )	( )	( )
TEACHER		( )	( )	( )
CLASSMATES		( )	( )	( )
TEACHER		( )	( )	( )
LEARNING		( )	( )	( )
READING		( )	( )	( )
MATHEMATICS		( )	( )	( )
CLASS MEETING		( )	( )	( )

APPENDIX 20

ASTOR PROGRAM FOR GIFTED CHILDREN
Dr. Virginia Z. Ehrlich, Director

HOW YOU FEEL ABOUT THINGS
Directions to Examiners

To the Examiner: Read this exactly as written. Do not substitute words or change sequence. You must read each item as stated here.

SAY:

I am going to ask you how you feel about some things. We will work on this together.

If you like something very much, it makes you feel happy, like the HAPPY face here. (Point to it on the paper.)

If you don't like something, you might feel sad, like the SAD face here (Point to it on the paper.)

If you don't care either way, if something doesn't make you feel either happy or sad, then you feel sort of in between, like this face in the middle. (Point to it on the paper.)

Now, look at the first line, with the raisin cookie. How do you feel about cookies? If you like cookies very much and it makes you happy to eat them, you will put a mark in the space under the happy face. If you don't like cookies, even hate them, you will put a mark in the space under the sad face. And if you don't care one way or the other about cookies, you will put a mark in the space under the middle face. Now, put a mark in the space that tells how you feel about cookies.

Let us do the next one together. Look at the line with the little sun on it. If the color yellow makes you feel happy, put a mark in the space under the happy face. If the color yellow makes you feel sad, put a mark in the space under the sad face. If the color yellow doesn't make you feel either happy or sad, you will put a mark in the space under the middle face.

NOW LET US DO EACH OF THE NEXT LINES TOGETHER. DO NOT MAKE ANY MARKS UNTIL I TELL YOU. THERE ARE NO RIGHT OR WRONG ANSWERS. REMEMBER THAT ANY ANSWER YOU GIVE IS THE RIGHT ANSWER.

Look at the line with the school building on it. How do you feel about school? Put a mark in the space under the face that shows how you feel about school.

Look at the line with the one star on it. How do you feel about _____? (Name of first of two class teachers, taken alphabetically.) Put a mark in the space under the face that shows how you feel about _____.

Look at the line with the three stick figures. How do you feel about your classmates? Put a mark in the space that shows how you feel about your classmates.

Look at the line with the two stars on it. How do you feel about _____? (Name of second teacher in class, taken alphabetically.) Put a mark in the space that shows how you feel about _____. (OMIT IF ONE TEACHER ONLY)

Look at the line with the circle or ring on it. How do you feel about learning? Put a mark in the space that shows how you feel about learning.

Look at the line with the book on it. How do you feel about reading? Put a mark in the space that shows how you feel about reading.

Look at the line with the numbers on it. How do you feel about mathematics? Put a mark in the space that shows how you feel about mathematics.

Look at the bottom line, the one with the fan shape on it. How do you feel about class meetings? Put a mark in the space that shows how you feel about class meetings.